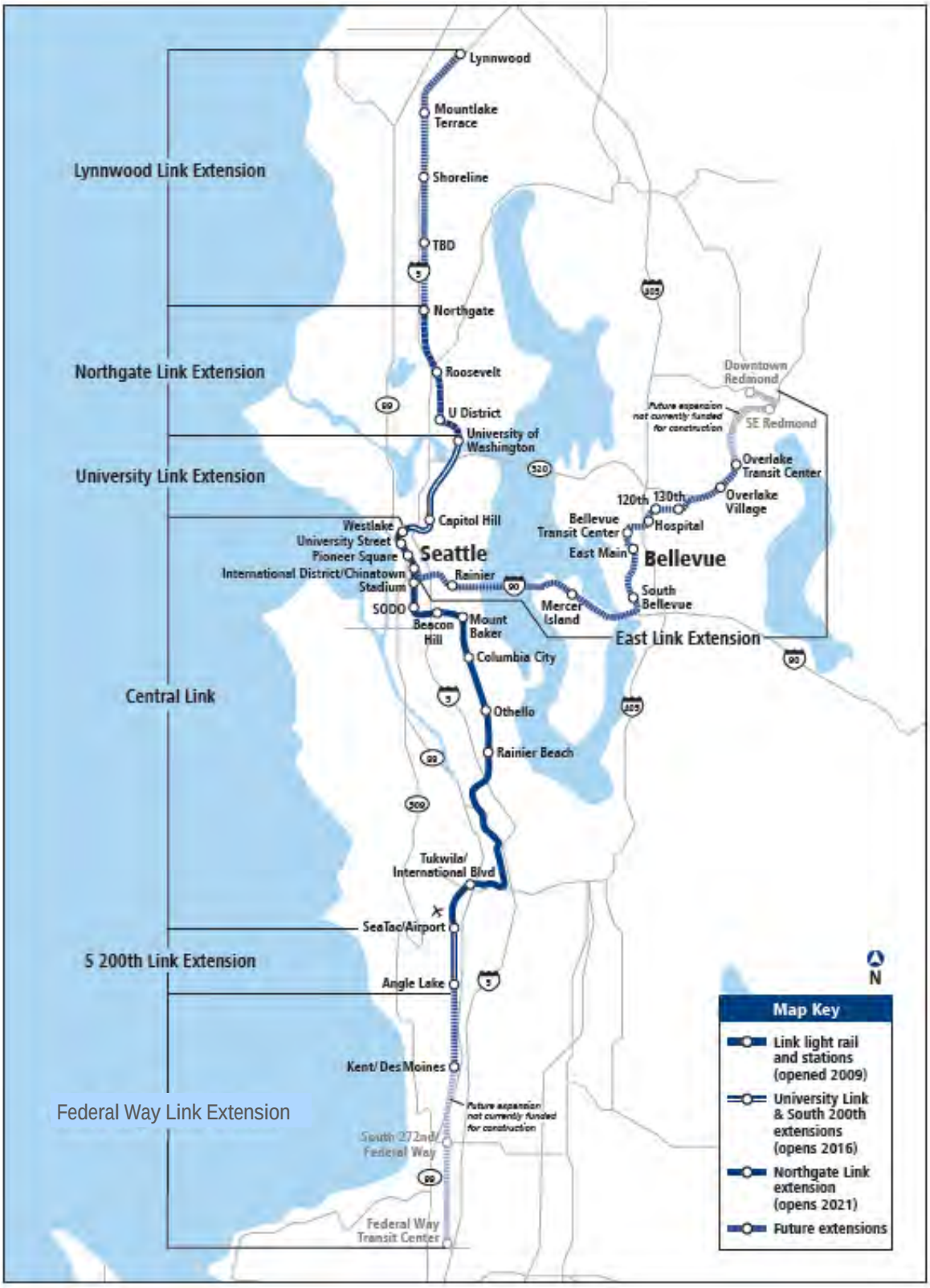
Progress Report
Link Light Rail Program

Overview of the University of Washington Station.

December | 2013

SOUNDTRANSIT

Prepared by Project Control | Design, Engineering & Construction Management



Map of Sound Transit's current and future light rail projects.

Projects

University Link Extension: The University Link Extension work program with $1.76 billion capital budget was approved by the Board in July 2008. The 3.15-mile light rail segment is located entirely underground with tunnels traveling from Pine Street, under the I-5 freeway to an underground station at Capitol Hill, continuing north beneath SR 520 and the Lake Washington Ship Canal to an underground station on the University of Washington campus, near Husky Stadium.

Northgate Link Extension: The University of Washington Station (UWS) to Northgate project is a 4.3-mile extension of light rail from the UWS north under campus via twin-bored tunnels to an underground station at NE 45th Street continuing to an underground station at NE 65th Street and via tunnel, retained cut and elevated sections to Northgate. The project is in Final Design and Construction. Revenue Service date is September 2021.

Lynnwood Link Extension: This project entails the planning, design and construction of an extension of Northgate Link from Northgate to Lynnwood in Snohomish County with additional service in the cities of Shoreline and Mountlake Terrace. The draft environmental impact statement (DEIS) was published in July 2013.

East Link Extension: East Link Extension expands light rail to East King County via I-90 from Downtown Seattle to the Overlake Transit Center area of Redmond, with stations serving Rainier Avenue/I-90, Mercer Island, South Bellevue, Downtown Bellevue, Overlake Hospital, the Bel-Red corridor, Overlake Village and the Overlake Transit Center. Revenue service to the Overlake Transit Center is forecast for early 2023 with a tunnel route in Downtown Bellevue.

Initial Segment: Completed 13.9-mile light rail line between downtown Seattle and South 154th Street in the City of Tukwila. Revenue service began on July 18, 2009.

Airport Link: Completed 1.7-mile extension of the Initial Segment to Sea-Tac International Airport. Revenue service began on December 19, 2009.

South 200th Link Extension: S. 200th Link Extension consists of a 1.6-mile extension of the light rail from the SeaTac/Airport Station to an elevated station at South 200th Street. The Project is being developed through a design-build (DB) delivery strategy and the anticipated service launch is September 2016.

Federal Way Link Extension: Sound Transit has initiated studies to identify and evaluate routing and station location requirements to inform conceptual engineering and environmental review for the extension of light rail to the Federal Way Transit Center; with preliminary engineering to be completed on the segment extending from S. 200th St. to Kent/Des Moines in the vicinity of Highline Community College. The proposed budget for this effort is $41.8M.

Tacoma Link Expansion: In partnership with the City of Tacoma and Pierce Transit, Sound Transit is studying the potential of expanding Tacoma Link in the context of the City and Pierce Transit service and capital plans.

Link Operations and Maintenance Satellite Facility: Sound Transit is reviewing and evaluating current and future light rail storage and maintenance requirements to support the development, design, and construction of a future light rail operations and maintenance facility for proposed system expansion.

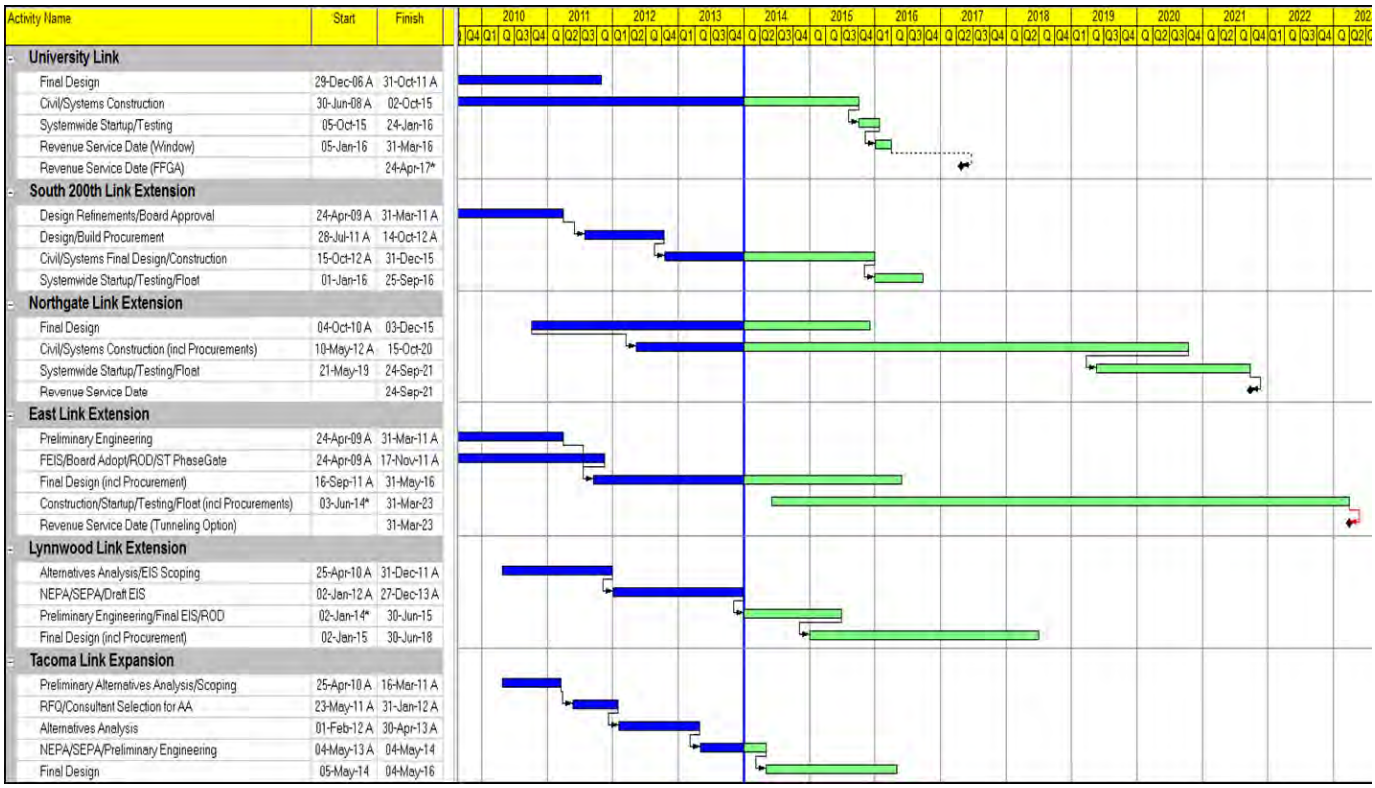
Program Budget

Project	Adopted Budget	Committed to Date	Incurred to Date
University Link[3]	$1,947.7	$1,573.5	$1,273.2
Northgate Link Extension[2, 3]	$2,131.4	$731.8	$192.7
Lynnwood Link Extension[1]	$57.1	$40.9	$20.7
East Link[2]	$760.8	$248.0	$168.8
Initial Segment[4]	$2,433.7	$2,323.7	$2,296.3
Airport Link[4]	$263.1	$263.3	$261.2
S. 200th Link Extension[2, 3]	$383.2	$262.3	$118.1
Federal Way Link Extension[1]	$41.8	$13.2	$5.9
Tacoma Link Expansion [1,5]	$5.8	$1.6	$1.6
Link Operations & Maintenance Satellite Facility[1]	$32.6	$26.7	$26.3
Total	**$8,057.2**	**$5,485.0**	**$4,364.8**

Table figures in millions (1) Preliminary Engineering Phase; (2) Final Design Phase ; (3) Construction Phase; (4) In Service, (5) Updated Quarterly.

Program Schedule

Schedules for active projects are summarized below.



Changes this period: University Link Extension has been revised to indicate the earlier completion window for Revenue Service, as announced at the ST Board meeting in November 2013. This window indicates Revenue Service for University Link to occur in the 1st QTR 2016.

Link Light Rail
University Link Extension

Scope

Limits: 3.15-mile extension of the Initial Segment light rail transit (LRT) system from the Pine Street Stub Tunnel (PSST) in downtown Seattle to University of Washington (UW) campus near Husky Stadium.

Tunnels: Two twin bored tunnels. Two contract segments: U220 starts at Husky Stadium, continues beneath SR 520 and the Lake Washington Ship Canal and south to the Capitol Hill underground station. U230 commences at Capitol Hill Station and proceeds south under the I-5 freeway to the PSST.

Stations: 2 underground center platform stations – Capitol Hill (U240) and University of Washington (U250). U240 is approximately 65' underground with three station entrances. U250 is about 100' below ground, with three station entrances and connections to the UW campus by a pedestrian bridge.

System: 27 LRV; direct fixation tracks, signals, traction electrification, and SCADA communications

Budget: $1.948 billion including finance cost (capital subtotal of $1.756 billion)

Schedule: Project completion in the 1st QTR 2016

Key Project Issues

- U830 Systems access will be a continuous issue as there are no tunnel portals in the U-Link project. All access coordination are crucial and requires collaboration between Civil and System contractors and is being closely monitored.
- U830 Systems submittals continue to be closely monitored. Contractor is working closely with the sub-contractors, especially the Communications subcontractor as SCADA is the highest risk critical path in Systems.
- The Maintenance of Way Building will be located in the Operations and Maintenance Facilities site. The Architectural & Engineering consultant is finalizing the design-build program. Qualified Design Builders have been shortlisted and RFP was issued in October 2013; Award and Notice to Proceed in the 2nd QTR 2014.
- *University of Washington Central Campus Lab mitigation:* UW indicated in 2008 that labs relocation will not be necessary until operation of the Northgate Link Extension. UW has now determined that relocation is necessary prior to start of the Northgate Link's tunneling under their campus. While this issue has no impact to Sound Transit's schedule or scope, it will have a financial impact.
- *Early Opening:* It was recommended to the Sound Transit Board that U- Link has a high probability to open for Revenue Service sometime during the 1st QTR 2016. For this to occur, U-Link will have to release all of the project float and compress Testing and Start Up period. Coordination with regional stakeholders will have to be begin soon to make early opening happen. Progress from the contractors on the critical path (U240 and U830) will be crucial as there will no longer be any project float to absorb any delay impacts.

Project Cost Summary

The U-Link project cost is summarized in two types of cost classifications. In the first table, cost is classified in accordance with Sound Transit's Work Breakdown Structure (WBS); and in the second table, cost is summarized in accordance to the FTA's Standard Cost Categories (SCC) format. (Both tables' figures in millions.)

WBS Phase Elements	Baseline Budget	Current Adopted Budget	Commitment to Date*	Incurred to Date	Est. Final Cost (EFC)	Adopted Budget vs. EFC
ADMINISTRATION	$ 115.23	$ 115.23	$ 50.98	$ 54.15	$ 115.23	$ -
PRELIMINARY ENGINEERING	$ 24.39	$ 24.26	$ 24.26	$ 24.26	$ 24.26	$ -
FINAL DESIGN	$ 77.94	$ 87.63	$ 84.31	$ 78.52	$ 87.63	$ -
CONSTRUCTION SERVICES	$ 68.53	$ 95.81	$ 75.32	$ 61.63	$ 95.70	$ 0.11
3rd PARTY AGREEMENTS	$ 18.65	$ 18.65	$ 11.42	$ 10.59	$ 18.63	$ 0.02
CONSTRUCTION	$ 1,180.00	$ 1,158.18	$ 910.68	$ 717.34	$ 1,075.67	$ 82.51
VEHICLES	$ 103.91	$ 103.91	$ 99.17	$ 99.17	$ 103.91	$ -
ROW	$ 167.33	$ 152.33	$ 125.63	$ 125.56	$ 127.69	$ 24.64
Capital Total	**$ 1,755.97**	**$ 1,756.01**	**$ 1,381.78**	**$ 1,171.23**	**$ 1,648.72**	**$ 107.28**
FINANCE COST	$ 191.71	$ 191.71	$ 191.71	$ 101.93	$ 191.71	$ -
Project Total	**$ 1,947.68**	**$ 1,947.72**	**$ 1,573.49**	**$ 1,273.15**	**$ 1,840.43**	**$ 107.28**

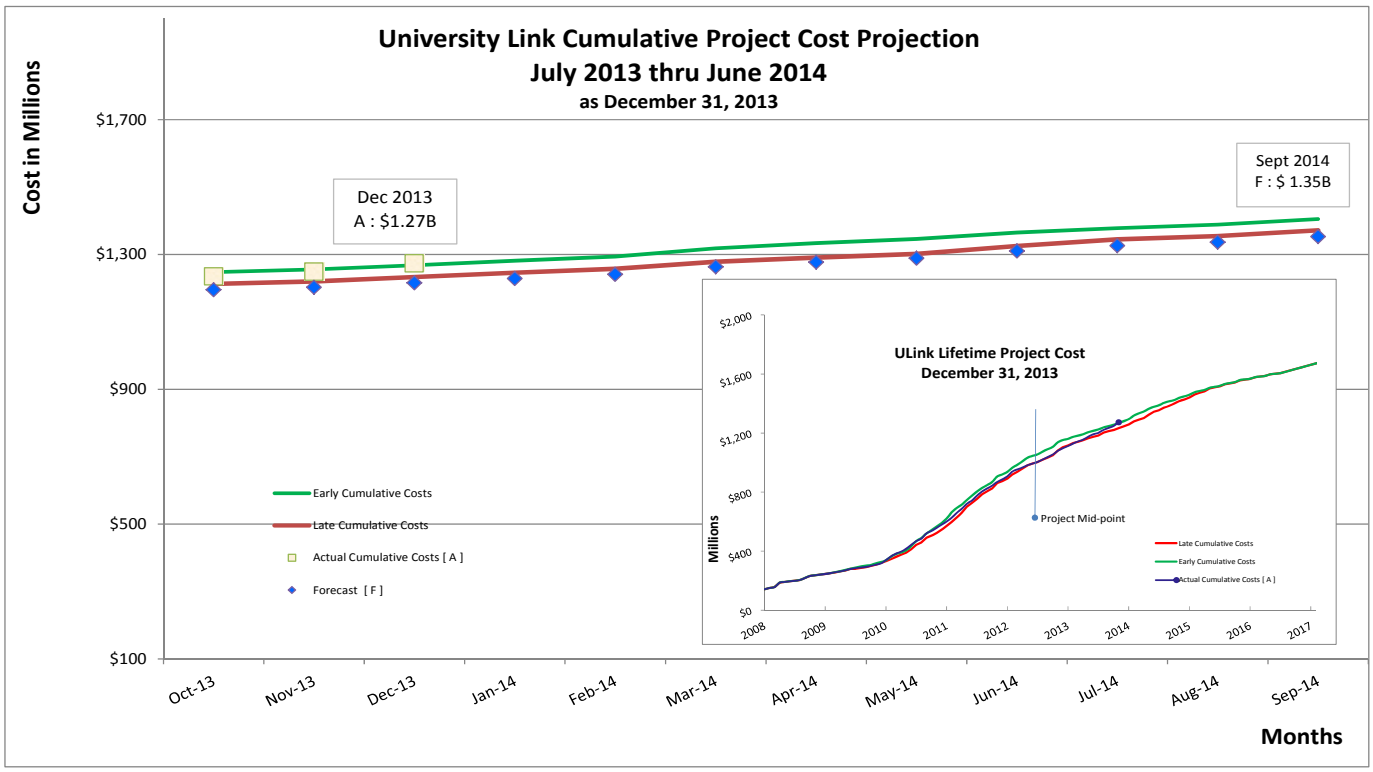
(*)Totals may not equal column sums due to rounding of line entries.

The December 2013 projected Estimated Final Cost (EFC) including Finance Cost remains at $1.84B. This period, approximately $15.5M was incurred, increasing the project Incurred to Date amount to $1.17B (Finance Cost excluded). Direct construction cost accounted for over 78% of the cost incurred in December at approximately $12M. The direct construction EFC continues to trend under $1.08B. This trend continues to be intact as both the high risk tunnel scope are now completed. The Capitol Hill Station (U240) contractor continues concrete placement and the Systems (U830) Contractor continues track construction. The Total Incurred to Date for the Construction Phase is over $717M with a current commitments of approximately $911M. Cost for LRV is approximately $99.2M and is progressing nicely on close out activities .

Construction EFC under the SCC format for this period remains stable and relatively unchanged at about $1.02B. Construction phase expenditures in December is approximately $12.M to which about 66% of this period's cost is attributed to station work and about 22% to System work. Currently, U-Link construction cost is all attributed to station construction and Systems software development and track installation. U240 station continues to place concrete and U250 station continues with good progress with the basic station structure and pedestrian bridge clearly visible from the street level and near completion.

Project Elements by SCC	Baseline Budget	Current Adopted Budget	Commitment to Date*	Incurred to Date	Estimated Final Cost (EFC)	Adopted Budget vs. EFC
10 Guideway & Track Elements	$ 626.83	$ 543.40	$ 420.10	$ 394.18	$ 469.72	$ 73.68
20 Stations	$ 366.33	$ 367.15	$ 331.07	$ 244.19	$ 363.39	$ 3.76
30 Support Facilities: Yards, Shops	$ 7.01	$ 7.08	$ 8.06	$ 7.79	$ 23.15	$ (16.08)
40 Sitework & Special Conditions	$ 59.03	$ 72.20	$ 55.98	$ 44.98	$ 60.40	$ 11.80
50 Systems	$ 69.63	$ 113.67	$ 89.46	$ 23.98	$ 106.25	$ 7.42
Construction Subtotal (SCC 10-50)	**$ 1,128.82**	**$ 1,103.49**	**$ 904.67**	**$ 715.12**	**$ 1,022.91**	**$ 80.58**
60 Row, Land, Existing Improvements	$ 167.33	$ 127.69	$ 125.63	$ 125.56	$ 127.69	$ -
70 Vehicles	$ 99.76	$ 99.76	$ 99.17	$ 99.17	$ 99.76	$ -
80 Professional Services	$ 306.41	$ 344.43	$ 252.31	$ 231.36	$ 345.36	$ (0.94)
90 Unallocated Contingency	$ 53.65	$ 80.64	$ -	$ -	$ 53.00	$ 27.64
Capital Cost Total (SCC 10-90)	**$ 1,755.97**	**$ 1,756.01**	**$ 1,381.78**	**$ 1,171.23**	**$ 1,648.72**	**$ 107.28**
100 Finance Cost	$ 191.71	$ 191.71	$ 191.71	$ 101.93	$ 191.71	$ -
Project Total	**$ 1,947.68**	**$ 1,947.72**	**$ 1,573.49**	**$ 1,273.15**	**$ 1,840.43**	**$ 107.28**

(*)Totals may not equal column sums due to rounding of line entries.



Incurred to date for Construction under the SCC is over $715M or over 65% of the budgeted construction scoped to date. Total capital cost incurred to date including non-construction cost (SCC 60 thru 90) is over $1.17B or over 67% of total project budget scoped (excluding Finance Cost).

Maintenance of Way building (U810) estimated at about $16M, is now incorporated into SCC 40 Site work & Special Conditions. This cost was not originally part of the baseline estimate and will be covered by Unallocated Contingency. A decrease in SCC 10 Guideway & Track Elements will offset this cost.

Total cost incurred at the end of December 2013 including Finance Cost is about $1.27B. The Project financing cost incurred to date is $101.9M with a revised annual projection of $27M to incur in 2014. The next finance cost update will be for the 1st QTR 2014. Overall, University Link cost to date is projected to be approximately $1.3B by June 2014.

The EFC for project Finance Cost continues to be projected at $191.7 million. This cost represents booked financing cost and is generated based on allocation of appropriate level of financing cost to each capital project at Sound Transit. Despite an earlier than anticipated release of $44 million of the FFGA funds due to the American Recovery Reinvestment Act that was used to pay down finance charges, it is premature to project any savings at this time.

Overall Construction Progress Summary

12/31/2013

Early Works	
U210 Early Utility Work	100%
U211 Demo & Remediation	100%
U215 I-5 Undercrossing	100%
Tunnels	
U220 UWS to CHS	100%
U230 CHS to PSST	100%
Stations	
U240 Capitol Hill Station	41%
U250 University of WA Station	86%
Systems	
U820 Yard Expansion	100%
U830 Systemwide & Trackworks	29%
Other Systems Contracts	30%
Overall Major Construction	80.7%

Note: The overall construction progress above is based on a weighted combination of duration, schedule and cost % complete for individual construction contracts as compared to the overall U-Link construction contracts.

Cost Contingency Management

Project contingencies continue to remain at a healthy level of almost $336M due to the favorable construction bidding climate, ROW acquisition cost trends, diligent project risk management practices and excellent tunneling conditions. December's overall contingency balance reduced by $527K due to routine changes. Contingency level continues to trend well above the Planned Contingency Drawdown; the projected planned balance between the end of 4th QTR 2013 and the end of 1st QTR 2014 ranges from $115 and $110M and the Contingency Buffer is now projected to at the minimum $100M from this point until project completion. The projected planned Reserved Contingency balance is now planned at $50M (see contingency curve at the bottom of page). Construction is now around 80%. Barring any catastrophic event, there is a high likelihood that this contingency trend will remain intact.

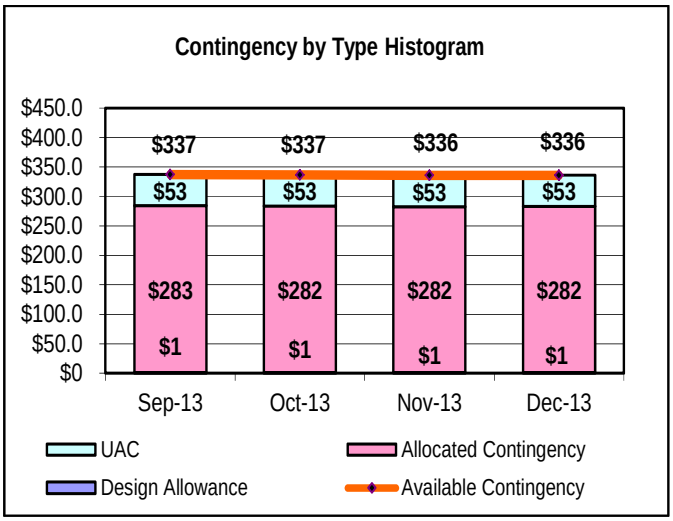
Design Allowance: The balance of design allowance has been reduced to $1.1M and is consistent with the project cycle as all the major design has been completed. The level of design allowance currently represents less than one-half percent of the total remaining scope in the project that has not been procured.

Allocated Contingency: Allocated Contingency continues to remain stable approximately $282M.

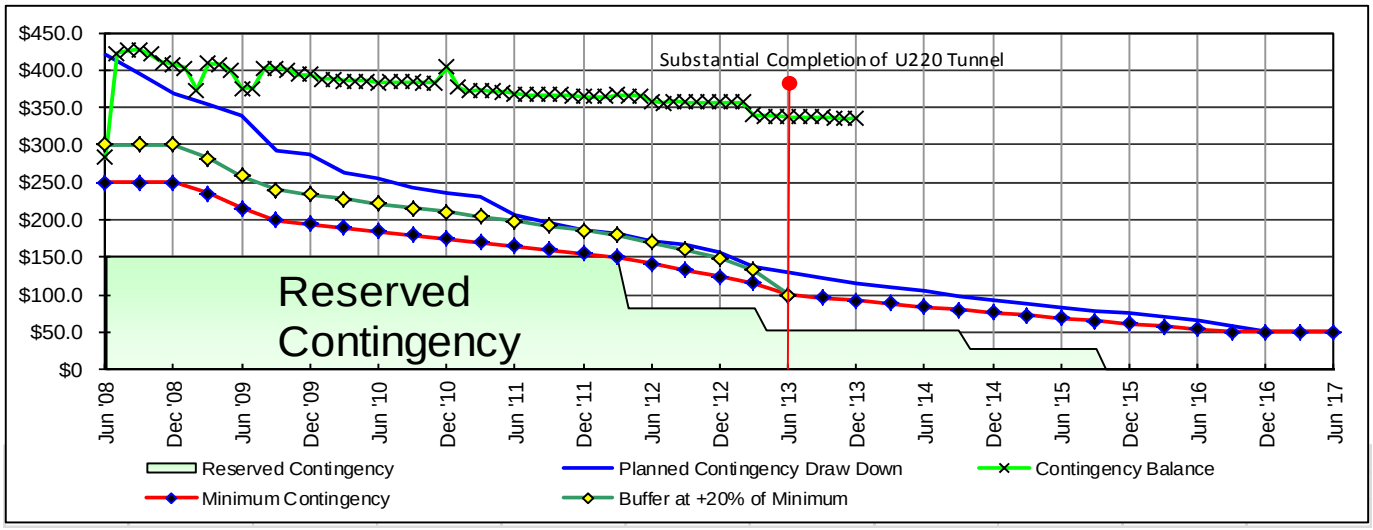
Unallocated Contingency (UAC): The total UAC balance remains at $53M due and continues to remain stable compared to the Baseline Cost Estimate amount of $53.7M.

Contingency Status	BCE		Current Status	
	Amount	% of Total	Remaining Amount	% Remaining Work
Design Allowance	$103.9	7.8%	$1.1	0.4%
Allocated Contingency	$264.3	19.8%	$281.7	113.2%
Unallocated Contingency	$53.7	4.0%	$53.0	21.3%
Total:	**$421.9**	**31.6%**	**$335.8**	**134.9%**

Percentage = Contingency $ /(EFC or Remain. Work $ ex-Contingencies)



MINIMUM CONTINGENCY CURVES as of December 31, 2013 **$ in millions**



Risk Management

The University Link Risk Management Plan (RMP) established a risk management and oversight process for identifying, assessing, and monitoring risks and develop risk reduction/mitigation plans. On a quarterly basis, the risk register is reviewed and risks are updated to reflect condition at the end of the current quarter. The RMP is also executed in compliance to the Federal Transit Administration's (FTA) guidance laid out as part of FTA's Program Guidelines subtask 40E.

Project Risk Overview:

At the end of 4th QTR 2013, U-Link project represents almost 81% construction completion with U220 and U230 Tunnels at Acceptance; U240 Station is well underway with continued work on concrete and rebar that is approaching roof deck; commence work on the west entry with installation of secant and soldier pile works; electrical and mechanical rough in work has also begun at platform level. U250, with basic structure is now near completion, and is now focusing on mechanical and electrical work through out the north station and head house. U830 Systems continued rail installation in the tunnels; commenced development of specialty track works; ongoing verification for communication and signaling elements. Sound Transit completed updating and identifying risks on the register that were both within the current management time horizon and posed considerable risk to project objectives by having both relatively high probability and impact. The report will be issued to FTA and the PMOC shortly. Prior to this update, the register contained a total of 589 risks, of which 107 were active (455 closed). This quarterly update resulted in a total of 563 risks, of which 99 are active (463 closed). Closed risks were those that no longer presents a potential impact, e.g., risks associated with surface and tunnel excavation at the stations and design risks that have been resolved since the last update. The rise in active risks this quarter is due to the close out of risk events in the two tunneling scope as well as placeholder risk identified for the exploration of potentially an earlier than planned project opening date to the Risk Mitigation Plan.

The top remaining risk subjects that will require at least partial mitigating action in the upcoming quarter are provided below along with their planned risk management strategies:

- **Civil to Systems Contract Interfaces**
  Risk subjects pertaining to the transitioning interface between Station Finishes contractors (U240 and U250) to Systems contractor (U830)

- **Systems Long Lead Items**
  Long lead specialty materials that are necessary to complete for timely installation of track and signaling scope; Floating Slab design and fabrication.

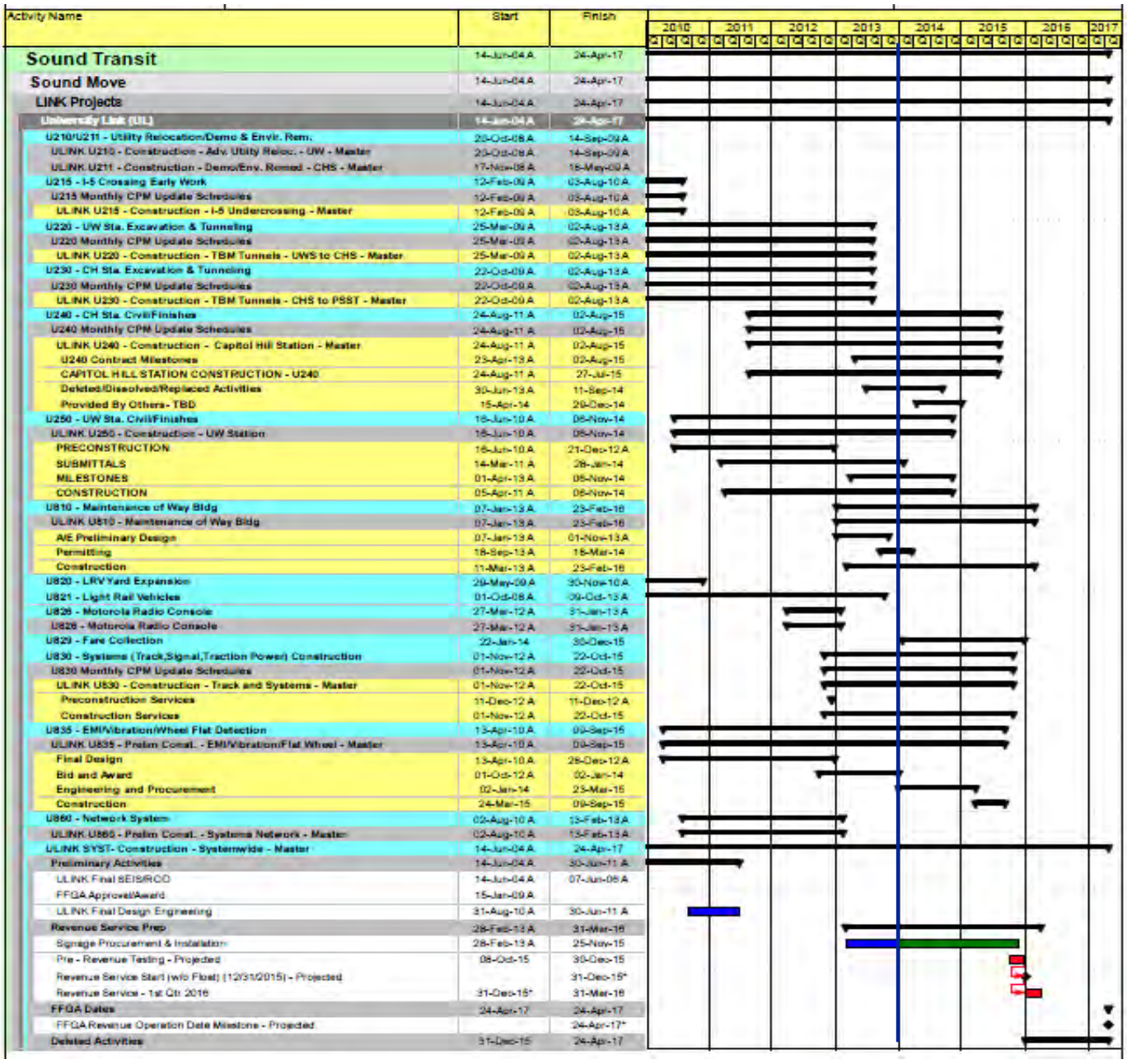
- **Systems Software Development**
  Development of the software systems to operate U-Link and the integration of the current operating system

- **Systems Final Design, Installation, Testing and Rail Activation (U830, U835, System-wide Testing/ Rail Activation)**
  All phases U-Link systems integration between the cut over of the current operating systems through to the commissioning and occupancy of the U Link program

- **University of Washington Lab Relocation Mitigation**
  Originally in 2008, UW indicated that lab relocation will not be required for University Link but has now determined that relocation is necessary prior to start of Northgate Link Extension tunnel construction.

Project Schedule Summary

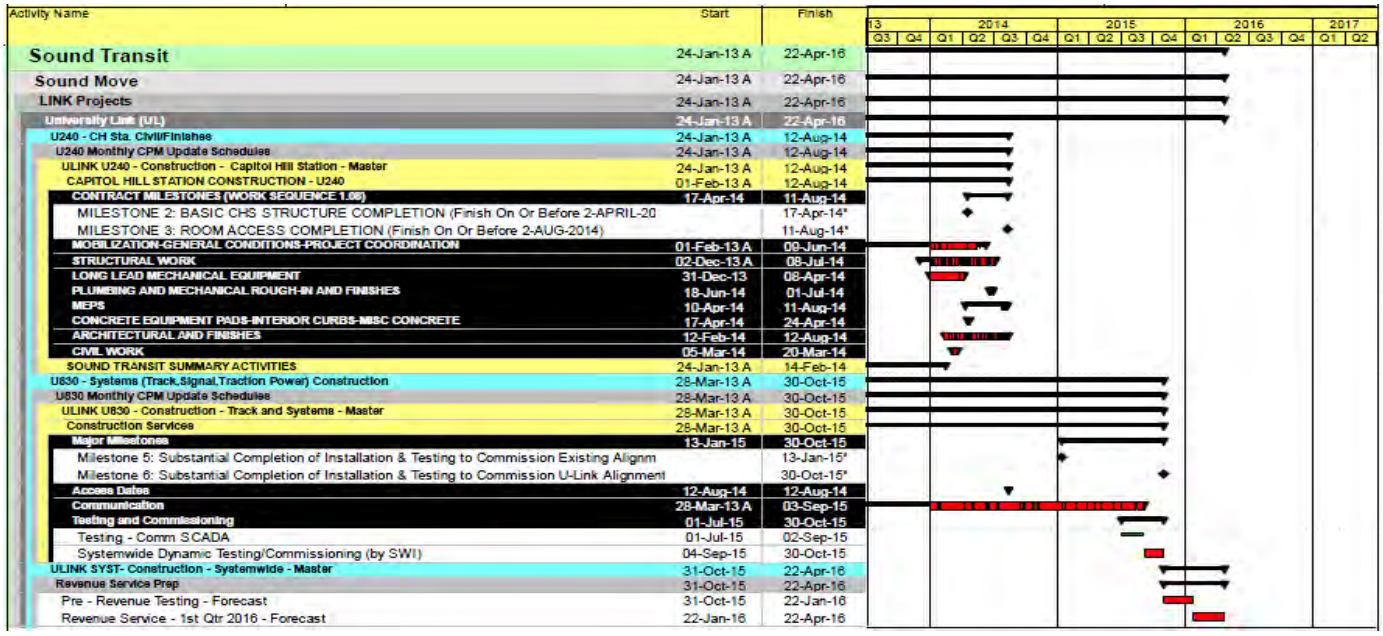
The University Link schedule is provided below. U210, U211 and U215 early work contracts have been completed. The U820 LRV Storage Yard Expansion Contractor has also completed all work. The U220 and U230 TBM mining is complete. At U250, the U830 is on site to install rail and plinth it the station and tunnels. U250 final roof pour is complete at the crossover area. The U250 Contractor is demobilized from the Montlake Triangle. U240 CHS Station Finishes Contractor is continuing with concrete work at the North end, South end and Central Area, working three fronts in the station box. The fourth front is now underway at the west entry where the excavation contractor is installing piles and excavating. The U240 Contractor has completed track slabs pours at the platform level in the central area of the station and all 6 roof pours are now complete. U830 has completed rail installation between CHS And PSST. Rail installation at UW Station and tunnels has commenced. Coordination between the U830 Systems Contractor and the station contractors are continuing. Procurement has commenced for U835 EMI/Vibration and the negotiations is complete. U860 Fiber Retrofit; upgrades and fiber installation are now complete. The targeted revenue service window is now the 1st Quarter 2016 with the removal of 169 days of float contingency from the Master Schedule.



Activity Name	Start	Finish
Sound Transit	14-Jun-04 A	24-Apr-17
Sound Move	14-Jun-04 A	24-Apr-17
LINK Projects	14-Jun-04 A	24-Apr-17
University Link (UL)	14-Jun-04 A	24-Apr-17
U210/U211 - Utility Relocation/Demo & Envir. Rem.	20-Oct-08 A	14-Sep-09 A
ULINK U210 - Construction - Adv. Utility Reloc. - UW - Master	20-Oct-08 A	14-Sep-09 A
ULINK U211 - Construction - Demo/Env. Remed. - CHS - Master	17-Nov-08 A	18-May-09 A
U215 - I-5 Crossing Early Work	12-Feb-09 A	03-Aug-10 A
U215 Monthly CPM Update Schedules	12-Feb-09 A	03-Aug-10 A
ULINK U215 - Construction - I-5 Undercrossing - Master	12-Feb-09 A	03-Aug-10 A
U220 - UW Sta. Excavation & Tunneling	25-Mar-09 A	02-Aug-13 A
U220 Monthly CPM Update Schedules	25-Mar-09 A	02-Aug-13 A
ULINK U220 - Construction - TBM Tunnels - UWS to CHS - Master	25-Mar-09 A	02-Aug-13 A
U230 - CH Sta. Excavation & Tunneling	22-Oct-09 A	02-Aug-13 A
U230 Monthly CPM Update Schedules	22-Oct-09 A	02-Aug-13 A
ULINK U230 - Construction - TBM Tunnels - CHS to PSST - Master	22-Oct-09 A	02-Aug-13 A
U240 - CH Sta. Civil/Finishes	24-Aug-11 A	02-Aug-15
U240 Monthly CPM Update Schedules	24-Aug-11 A	02-Aug-15
ULINK U240 - Construction - Capitol Hill Station - Master	24-Aug-11 A	02-Aug-15
U240 Contract Milestones	23-Apr-13 A	02-Aug-15
CAPITOL HILL STATION CONSTRUCTION - U240	24-Aug-11 A	27-Jul-15
Deleted/Dissolved/Replaced Activities	30-Jun-13 A	11-Sep-14
Provided By Others - TBD	15-Apr-14	29-Dec-14
U250 - UW Sta. Civil/Finishes	18-Jun-10 A	06-Nov-14
ULINK U250 - Construction - UW Station	18-Jun-10 A	06-Nov-14
PRECONSTRUCTION	18-Jun-10 A	21-Dec-12 A
SUBMITTALS	14-Mar-11 A	28-Jan-14
MILESTONES	01-Apr-13 A	06-Nov-14
CONSTRUCTION	05-Apr-11 A	06-Nov-14
U810 - Maintenance of Way Bldg	07-Jan-13 A	23-Feb-16
ULINK U810 - Maintenance of Way Bldg	07-Jan-13 A	23-Feb-16
A/E Preliminary Design	07-Jan-13 A	01-Nov-13 A
Permitting	18-Sep-13 A	18-Mar-14
Construction	11-Mar-13 A	23-Feb-16
U820 - LRV Yard Expansion	29-May-09 A	30-Nov-10 A
U821 - Light Rail Vehicles	01-Oct-08 A	09-Oct-13 A
U826 - Motorola Radio Console	27-Mar-12 A	31-Jan-13 A
U826 - Motorola Radio Console	27-Mar-12 A	31-Jan-13 A
U829 - Fare Collection	22-Jan-14	30-Dec-15
U830 - Systems (Track,Signal,Traction Power) Construction	01-Nov-12 A	22-Oct-15
U830 Monthly CPM Update Schedules	01-Nov-12 A	22-Oct-15
ULINK U830 - Construction - Track and Systems - Master	01-Nov-12 A	22-Oct-15
Preconstruction Services	11-Dec-12 A	11-Dec-12 A
Construction Services	01-Nov-12 A	22-Oct-15
U835 - EMI/Vibration/Wheel Flat Detection	13-Apr-10 A	09-Sep-15
ULINK U835 - Prelim Const. - EMI/Vibration/Flat Wheel - Master	13-Apr-10 A	09-Sep-15
Final Design	13-Apr-10 A	28-Dec-12 A
Bid and Award	01-Oct-12 A	02-Jan-14
Engineering and Procurement	02-Jan-14	23-Mar-15
Construction	24-Mar-15	09-Sep-15
U860 - Network System	02-Aug-10 A	13-Feb-13 A
ULINK U860 - Prelim Const. - Systems Network - Master	02-Aug-10 A	13-Feb-13 A
ULINK SYST- Construction - Systemwide - Master	14-Jun-04 A	24-Apr-17
Preliminary Activities	14-Jun-04 A	30-Jun-11 A
ULINK Final SEIS/ROD	14-Jun-04 A	07-Jun-06 A
FFGA Approval/Award	15-Jan-09 A	
ULINK Final Design Engineering	31-Aug-10 A	30-Jun-11 A
Revenue Service Prep	28-Feb-13 A	31-Mar-16
Signage Procurement & Installation	28-Feb-13 A	25-Nov-15
Pre - Revenue Testing - Projected	08-Oct-15	30-Dec-15
Revenue Service Start (w/o Float) (12/31/2015) - Projected		31-Dec-15*
Revenue Service - 1st Qtr 2016	31-Dec-15*	31-Mar-16
FFGA Dates	24-Apr-17	24-Apr-17
FFGA Revenue Operation Date Milestone - Projected		24-Apr-17*
Deleted Activities	31-Dec-15	24-Apr-17

Progress and Critical Path Analysis

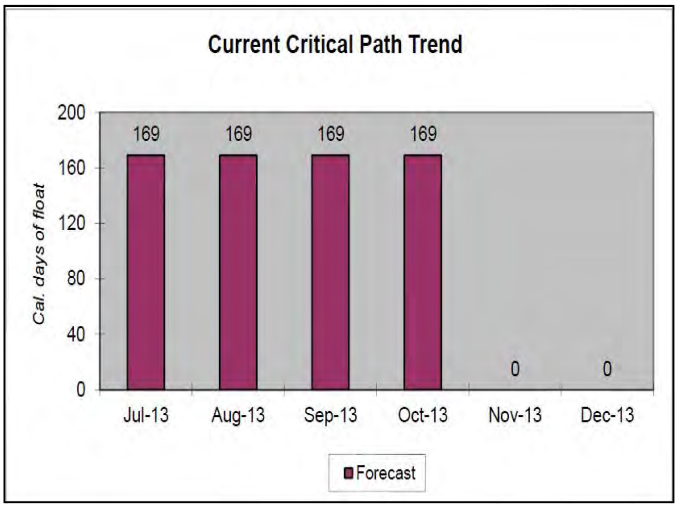
The U-Link master schedule update contains the tunnel contractors' schedules and interfaces with the stations and U830 (Track, Signal, Traction power and Communications System) schedules. Tunneling commenced in the 2nd QTR 2011 with the TBM assembly and launch. U220 and U230, TBM Mining, have achieved Substantial Completion and U830 has completed rail charging at the UWS with plinth rail installation complete in the NB and SB tunnel between CHS and PSST. U240 has completed all 6 roof pours in the Central Area and North and South roof pours are expected early 1st QTR 2014. The U240 and U830 contractors' schedules have now been incorporated into the Master Schedule. The critical path is progressing through U240 CHS system room access and the handover of these rooms to U830 for equipment installation and testing and commissioning. It is expected that the system room access milestone may be less of a factor with the Coordinated Installation Program that is underway at both U-Link stations. U830's Initial Segment SCADA retrofit activities are closely being monitored at this time due to it's criticality to systemwide testing for the U-Link Alignment. U830 system-wide communication integration testing will commence in the 3rd QTR 2015.


Activity Name
Start
Finish
13
2014
2015
2016
2017
Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2
Sound Transit 24-Jan-13 A 22-Apr-16
Sound Move 24-Jan-13 A 22-Apr-16
LINK Projects 24-Jan-13 A 22-Apr-16
Universally Link (UL) 24-Jan-13 A 22-Apr-16
U240 - CH Sta. Civil/Finishes 24-Jan-13 A 12-Aug-14
U240 Monthly CPM Update Schedules 24-Jan-13 A 12-Aug-14
ULINK U240 - Construction - Capitol Hill Station - Master 24-Jan-13 A 12-Aug-14
CAPITOL HILL STATION CONSTRUCTION - U240 01-Feb-13 A 12-Aug-14
CONTRACT MILESTONES (WORK SEQUENCE 1.06) 17-Apr-14 11-Aug-14
MILESTONE 2: BASIC CHS STRUCTURE COMPLETION (Finish On Or Before 2-APRIL-20 17-Apr-14*
MILESTONE 3: ROOM ACCESS COMPLETION (Finish On Or Before 2-AUG-2014) 11-Aug-14*
MOBILIZATION-GENERAL CONDITIONS-PROJECT COORDINATION 01-Feb-13 A 09-Jun-14
STRUCTURAL WORK 02-Dec-13 A 08-Jul-14
LONG LEAD MECHANICAL EQUIPMENT 31-Dec-13 08-Apr-14
PLUMBING AND MECHANICAL ROUGH-IN AND FINISHES 18-Jun-14 01-Jul-14
MEPS 10-Apr-14 11-Aug-14
CONCRETE EQUIPMENT PADS-INTERIOR CURBS-MISC CONCRETE 17-Apr-14 24-Apr-14
ARCHITECTURAL AND FINISHES 12-Feb-14 12-Aug-14
CIVIL WORK 05-Mar-14 20-Mar-14
SOUND TRANSIT SUMMARY ACTIVITIES 24-Jan-13 A 14-Feb-14
U830 - Systems (Track,Signal,Traction Power) Construction 28-Mar-13 A 30-Oct-15
U830 Monthly CPM Update Schedules 28-Mar-13 A 30-Oct-15
ULINK U830 - Construction - Track and Systems - Master 28-Mar-13 A 30-Oct-15
Construction Services 28-Mar-13 A 30-Oct-15
Major Milestones 13-Jan-15 30-Oct-15
Milestone 5: Substantial Completion of Installation & Testing to Commission Existing Alignm 13-Jan-15*
Milestone 6: Substantial Completion of Installation & Testing to Commission U-Link Alignment 30-Oct-15*
Access Dates 12-Aug-14 12-Aug-14
Communication 28-Mar-13 A 03-Sep-15
Testing and Commissioning 01-Jul-15 30-Oct-15
Testing - Comm SCADA 01-Jul-15 02-Sep-15
Systemwide Dynamic Testing/Commissioning (by SWI) 04-Sep-15 30-Oct-15
ULINK SYST- Construction - Systemwide - Master 31-Oct-15 22-Apr-16
Revenue Service Prep 31-Oct-15 22-Apr-16
Pre - Revenue Testing - Forecast 31-Oct-15 22-Jan-16
Revenue Service - 1st Qtr 2016 - Forecast 22-Jan-16 22-Apr-16

The critical path for the University Link schedule (above) derives from the completion of the cross passages and finishes between CHS to PSST (U230), to the installation of track, communication cabling and commissioning. Critical contract interfaces for cable and equipment installation by U830 have been included in the Coordinated Installation Program assigned to both the station contractors.

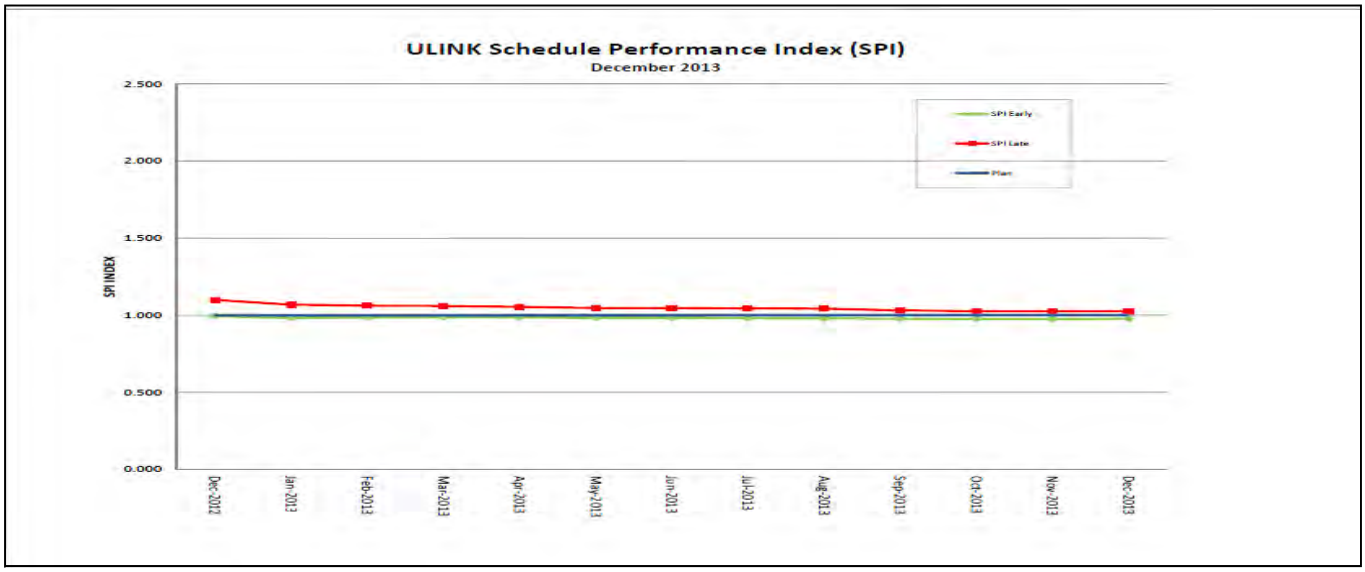
U-Link project float contingency has been removed from the U-Link Master Schedule and a window for Revenue Service has been reported for 1st QTR 2016.

No additional delays occurred this period. Progress will continue to be monitored closely.



Schedule Performance Index

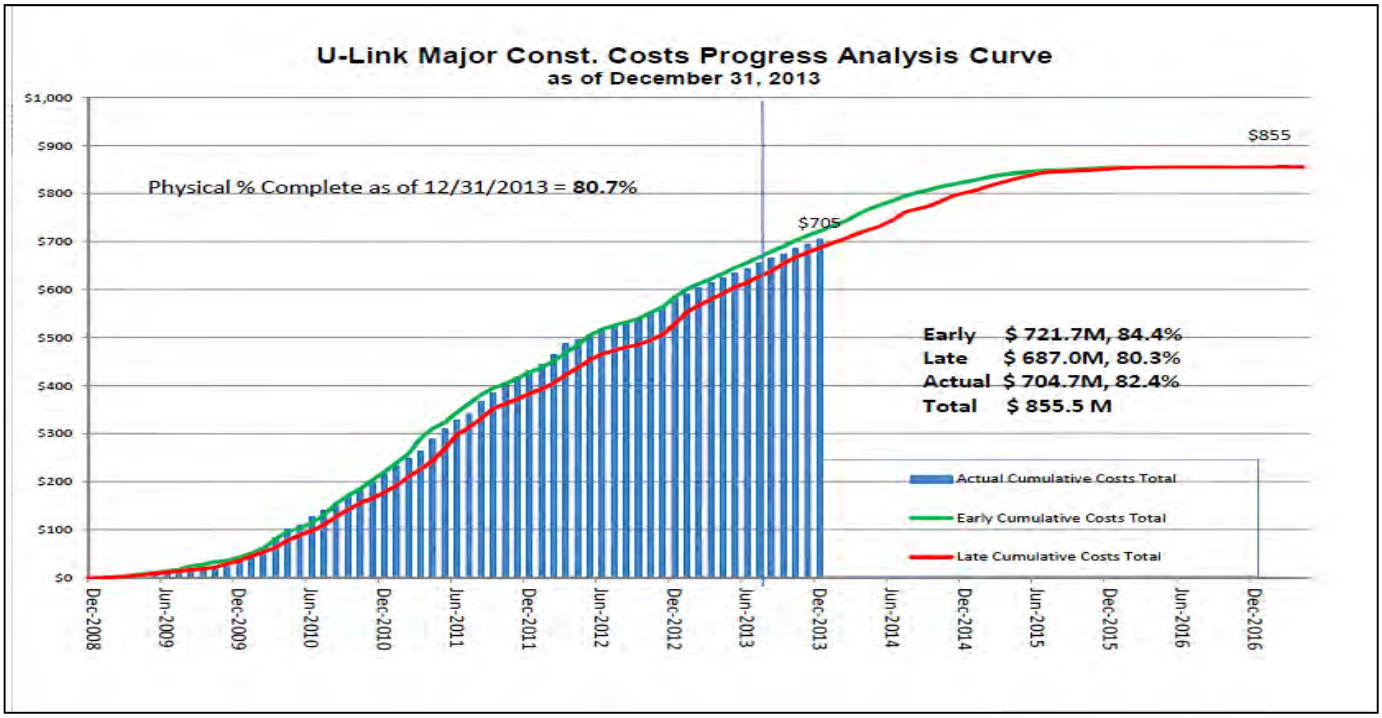
The Schedule Performance Index (SPI) for U-Link remains the same this period at 0.98 due to the slow procurement of equipment and materials at U240 and U830 and the late start of work activities on the U830 contract. (See details on individual contract sections.) Progress will continue to be monitored closely.



Cost Progress Analysis

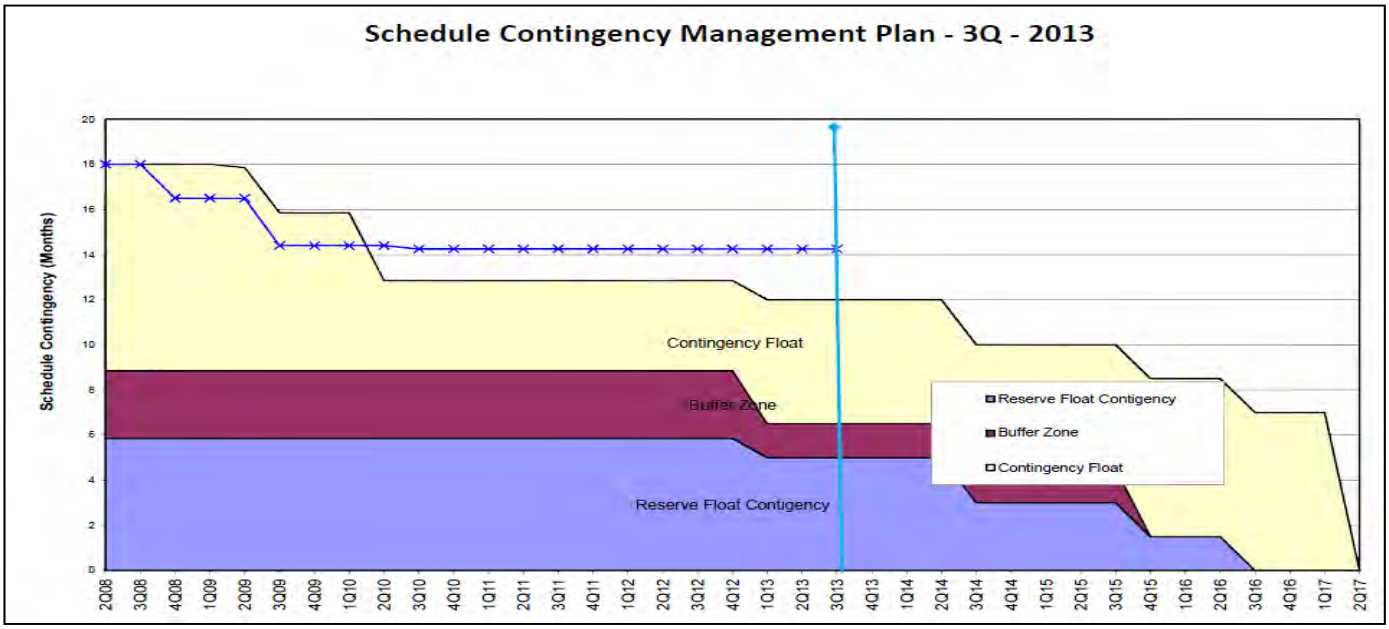
U220 and U230 are complete. U250 progress is now leveling off as structural work is wrapping up.

Overall U-Link physical % complete is at 80.7%. Below is a graphical representation of the progress of major construction contracts cost compared to the early/late projections.



Schedule Contingency Management

The "Minimum Schedule Contingency Curves" were established in the Project Execution Plan (PEP). The PEP segregated Schedule Contingency into "Forced Lag," which is a built-in float on the Critical Path; "Buffer Float," which is the duration between Sound Transit's targeted Revenue Operation Date and the Schedule Revenue Operation Date; "Contingency Float," which is the duration between Sound Transit targeted Revenue Operation Date and the FFGA Revenue Operation Date, and "Desired Minimum Float" which is the amount of schedule float the FTA requires Sound Transit to maintain. The current schedule contingency balance continues to be 14 months, 6 months above the "Desired Minimum Float" required by the PEP.



Right-of-Way

The U-Link project involved the acquisition of a range of property interests, including fee takings for stations and staging areas, tunnel easements for the running tunnels, acquisitions from the University of Washington and airspace leases with the Washington Department of Transportation. These acquisitions required relocation of 141 owners and tenants. The right-of-way program status is summarized below.

Line Section	Total Parcels Certified	Offers Made	Signed Agreements	Admin. Settlements	Possession and Use	Closings to date	Relocations Required	Relocations Completed
Capitol Hill Station	19	19				19	140	140
Tunnel Easements	223	222				222	1	1
TOTAL	242	241				241	141	141

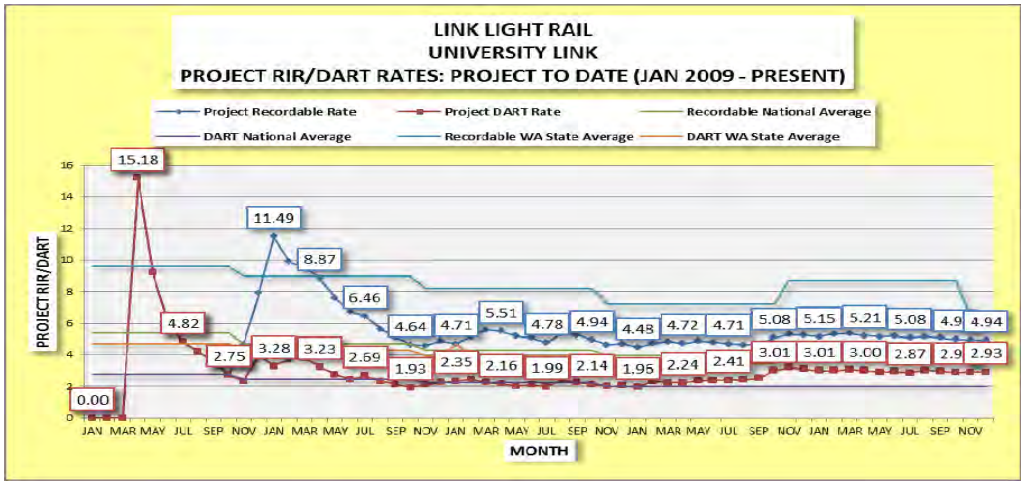
Capitol Hill Station: The acquisitions and relocations for the station site are complete.

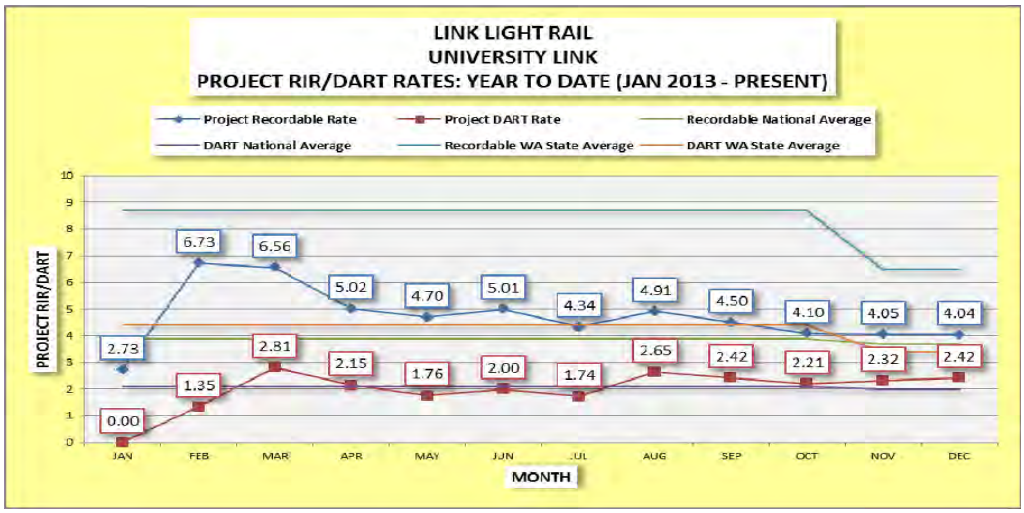
Tunnel Easements: All 222 parcels have closed. A WSDOT parcel continues to be in pending status; Sound Transit may not need this parcel for the project.

Construction Safety

Safety statistics for the reporting period and year-to-date are summarized in the table and charts.

Data/Measure	DEC 2013	Year to Date	Project to Date
Recordable Injury/Illness Cases	1	15	74
Days Away From Work Cases	0	1	14
Total Days Away From Work	0	111	573
Restricted or Modified Work Cases	1	8	30
Total Days Restricted or Modified Work	5	443	1481
First Aid Cases	2	17	126
Reported Near Mishaps	2	35	203
Ave. Nos. of Employees on Worksite	269	-	-
Total # of Hours (GC & Subs)	5,1864	742,573	2,998,374
OSHA Incident Rates	Monthly Average	Year to Date	Project to Date
Recordable Injury Rate	3.86	4.04	4.94
DART Rate	3.86	2.42	2.93
Recordable National Average	**3.70**	**3.70**	**3.70**
DART National Average	**2.00**	**2.00**	**2.00**
Recordable WA State Average	**6.50**	**6.50**	**6.50**
DART WA State Average	**3.40**	**3.40**	**3.40**





The charts to the right show University Link's Recordable Injury Rates (*RIR*) and University Link's Days Away, Restricted or Modified (*DART*) Injury Rate as compared to the national average.

Quality Assurance Activities

Activities

- None to report this period.

Issues

- None to report this period.

Summary

Description	Dec 2013	Notes
No. of Audits Planned	0	None
No. of Audits Completed	0	None
Reports in Progress	0	None
No. of Audits Postponed	0	None

Environmental

- Stormwater and industrial waste discharge permit compliance, along with the hazardous materials oversight, continue for the U-Link construction sites.

Sound Transit Board Actions

Board motions and resolutions directly related to University Link are summarized in the table below.

Motion Number	Description	Date
	None to report this period.	

Community Outreach

- Delivered more than 2,000 fliers to residents and businesses detailing the pedestrian concourse work on Broadway to start in January 2014.
- Emailed U-Link newsletter to GovDelivery listserv.
- Continued preparation for the Capitol Hill Open Houses.
- Held two drop-in sessions ahead of the start of work on the Capitol Hill pedestrian concourse. Approximately 20 people dropped in at Seattle Central Comm.
- Sent construction alert to the Capitol Hill Station email list on Dec. 23 regarding temporary traffic and sidewalk impacts from pole installation ahead of the pedestrian concourse work in Broadway. The work is starting in January

Business Mitigation

- Sponsored the 2013 'Shop the Hill' event. Shop the Hill is a yearly promotion, this year located around the Black Friday/Christmas Holidays. Elements included a Christmas tree lot, a kids holiday party and an adult holiday party as well as street performers and a Santa photo booth.
- Continued preparing Yourcapitolhill.com billboard design layout.

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U220 Contract - *TBM Tunnel (UWS to CHS)*

Current Progress

The U220 contract achieved Substantial Completion on June 7, 2013. Continued close-out activities.

Close-out Activities

Current Period

- All NCR paperwork are now closed and Acceptance will be issued for August 30, 2013, as it was the date where all punchlist work were completed.

Next Period

- Finalize remaining Change Orders to capture remaining Work Directive costs and de-commit unused Provisional Sums.

Closely Monitored Issues

- No remaining issues.

Cost Summary

Present Financial Status	Amount
U220 Contractor— Traylor Frontier-Kemper Joint Venture (TFK)	
Original Contract Value	$309,175,274
Change Order Value	$12,067,459
Current Contract Value	$ 321,408,334
Total Actual Cost (Incurred to date)	$ 315,071,655
Financial Percent Complete	98%
Physical Percent Complete:	100%
Authorized Contingency	$30,917,527
Contingency Drawdown	$12,233,060
Contingency Index*	2.53

**Physical % complete / % contingency drawn down*

U230 Contract -*TBM Tunnel (CHS to PSST)*

Current Progress

Substantial Completion was achieved in March 2013. The Contractor completed the punchlist items and continued working on final documentation. Work is 100% complete.

Close-out Activities

Current Period

- Contract is at Acceptance and is currently in the process of achieving Final Acceptance, which includes close out of contract.

Next Period

- Close out Activities: Continue working on achieving Final Acceptance. This includes reconciling of all outstanding monies and processing of final payment

Closely Monitored Issues

- None to report.

Cost Summary

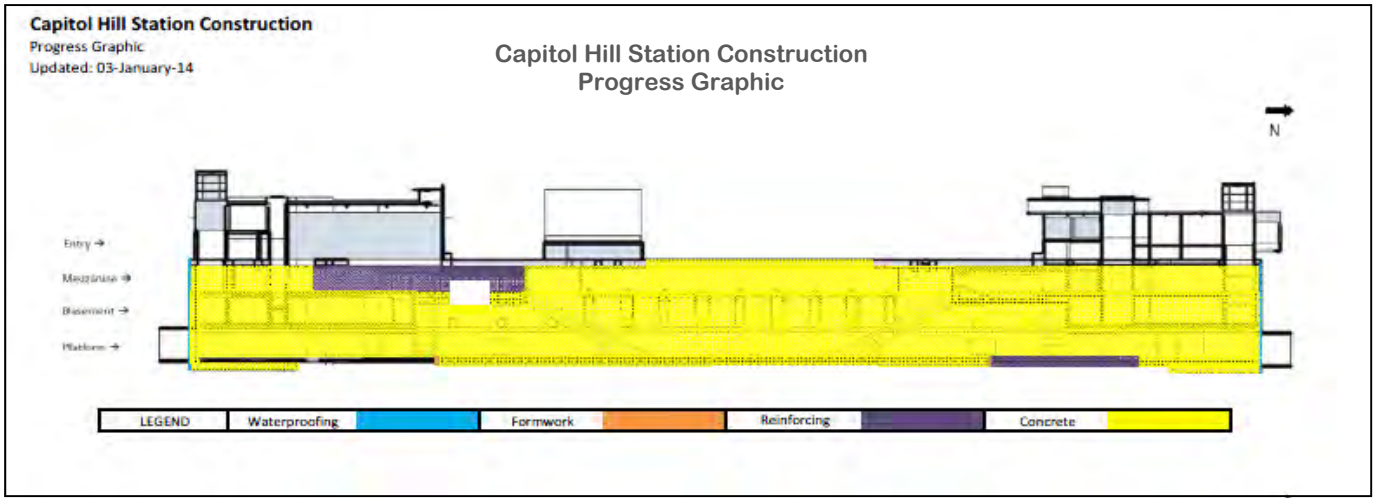
Present Financial Status	Amount
U230 Contractor— JCM Joint Venture	
Original Contract Value	$153,556,000
Change Order Value	$9,866,998
Current Contract Value	$163,452,998
Total Actual Cost (Incurred to date)	$156,979,939
Financial Percent Complete	96%
Physical Percent Complete	100%
Authorized Contingency	$15,355,600
Contingency Drawdown	$9,896,998
Contingency Index*	1.56

**Physical % complete / % contingency drawn down*

U240 Contract – *Capitol Hill Station*

Current Progress

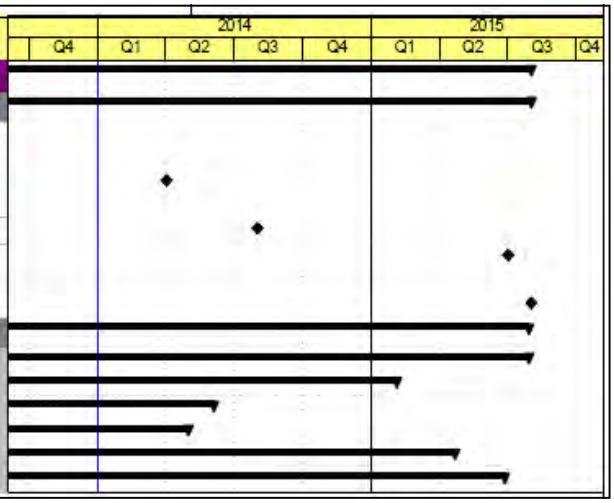
West Entry excavation is underway and preparation for the West Pedestrian Corridor excavation is ongoing. U240 Contractor placed all six central area roof slab pours this period. Area G and C final roof pours are expected in February. Area G platform slab installation is underway as U240 nears BSC completion in early 2nd QTR 2014. South Area C Platform slab work is underway. Physical % complete is at 43% against 42% contract time expended.



Schedule/Critical Path

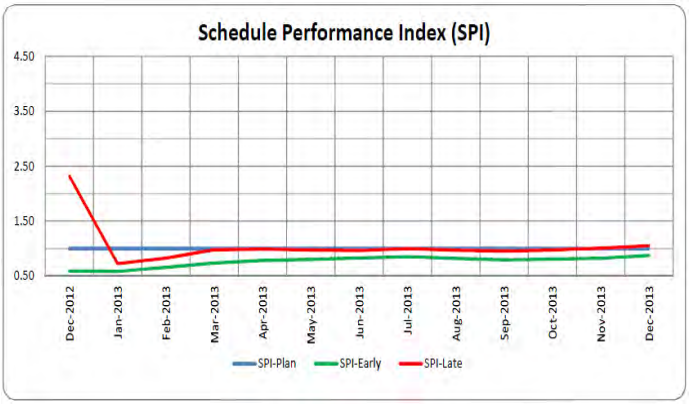
The schedule update has been rejected and a recovery schedule is expected. The Contractor is concurrently working all four fronts of the project, the central area, north end, south end and now the west entry and pedestrian corridor. Milestone #2 is reporting 15 days of negative float. The Contractor is expected to shift work sequences to regain the negative float. The critical path will continue through the central structure to the south end and into architectural finishes as the Contractor completes the Systems Rooms for turnover to U830 Contractor, Milestone #3- Room Access Completion, which is reporting 9 days of negative float. The Coordinated Installation Program (CIP) may resolve this constraint by utilizing a phased approach to system room access. The access constraints at Pine Street will remain the driver to Substantial Completion but may be mitigated in the future by the CIP as both contractors continue discussions. Milestone #4, Substantial Completion is reporting six days of positive float.

Activity Name	Start	Finish
ULINK U240 - Construction - Capitol Hill Station - Master	15-Nov-12 A	02-Aug-15
U240 Contract Milestones	23-Apr-13 A	02-Aug-15
Milestone 1a: Area C Base Slab Completion/Turnover to U830		23-Apr-13 A
MILESTONE 2: BASIC CHS STRUCTURE COMPLETION (02-APRIL-2014)		02-Apr-14*
MILESTONE 3: ROOM ACCESS COMPLETION (02-AUGUST-2014)		02-Aug-14*
MILESTONE 1: PINE STREET RETRIEVAL SHAFT BELOW ELEV 130' (02-JULY-2015)		02-Jul-15*
MILESTONE 4: SUBSTANTIAL COMPLETION (02-AUGUST-2015)		02-Aug-15*
CAPITOL HILL STATION CONSTRUCTION - U240	15-Nov-12 A	29-Jul-15
MOBILIZATION-GENERAL CONDITIONS-PROJECT COORDINATION	15-Nov-12 A	29-Jul-15
STRUCTURAL WORK	15-Nov-12 A	03-Feb-15
LONG LEAD MECHANICAL EQUIPMENT	25-Mar-13 A	04-Jun-14
LONG LEAD ELECTRICAL EQUIPMENT	27-Feb-13 A	01-May-14
ARCHITECTURAL AND FINISHES	28-May-13 A	21-Apr-15
COMMISSIONING	30-Jun-13 A	26-Jun-15



Schedule Performance Index

U240 is trending behind schedule this period. The CPM schedule has been rejected and a recovery schedule is expected to be submitted. Materials e.g., structural steel, rebar and vertical transportation equipment - and mechanical equipment were also not procured per the early projections. As a result, the SPI based on early forecast is below 1.0 at 0.87, although it has risen slightly from last period. Production levels and material procurement will continue to be monitored closely.



Key Activities

Current Period

- Continued forming, shoring, and prepping for the north mezzanine level exterior walls and central Area A roof pours.
- Earthwork contractor completed installation of the west entry secant piles and soldier piles and began excavation and installation of the lagging wall.
- Electrical and mechanical subcontractor's continued rough in installations throughout the platform level, and installed some of the electrical switchgear equipment.
- Completed some basement level rooms, including finish painting in the preparation for turnover to the Systems Contractor.
- Continued rebar, formwork and MEP rough-in for south track/platform slab.

Next Period

- Complete central Area A roof slab pours, and begin shoring and forming of the north Area G and C roof slabs.
- Continue excavation of the west entry and begin installation of the lagging wall. Also, begin installation of the piles at the west side of Broadway St. for the pedestrian concourse.
- Continue installation in Area C mezzanine level headwall and continue installation for the north mezzanine level interior walls in Area G.
- Electrical and mechanical subcontractors will continue MEP rough in/embeds throughout the station and continue to install the 2 station transformers in the electrical room.
- Painting contractor to continue interior painting of various rooms throughout the station.

Closely Monitored Issues

- The earthwork contractors continued exposing contaminated soils during the excavating for the secant piles at the West Entry. Soil sample testing continues and contaminated soils being hauled to the Everett disposal site.
- Earthwork subcontractor continues to justify and complete a DBE Electric subcontract substitution. The Contractor will re-subcontract the two new Bus Trolley contact wire and signal strain pole installation work to another electrical subcontractor in the meantime.

Cost Summary

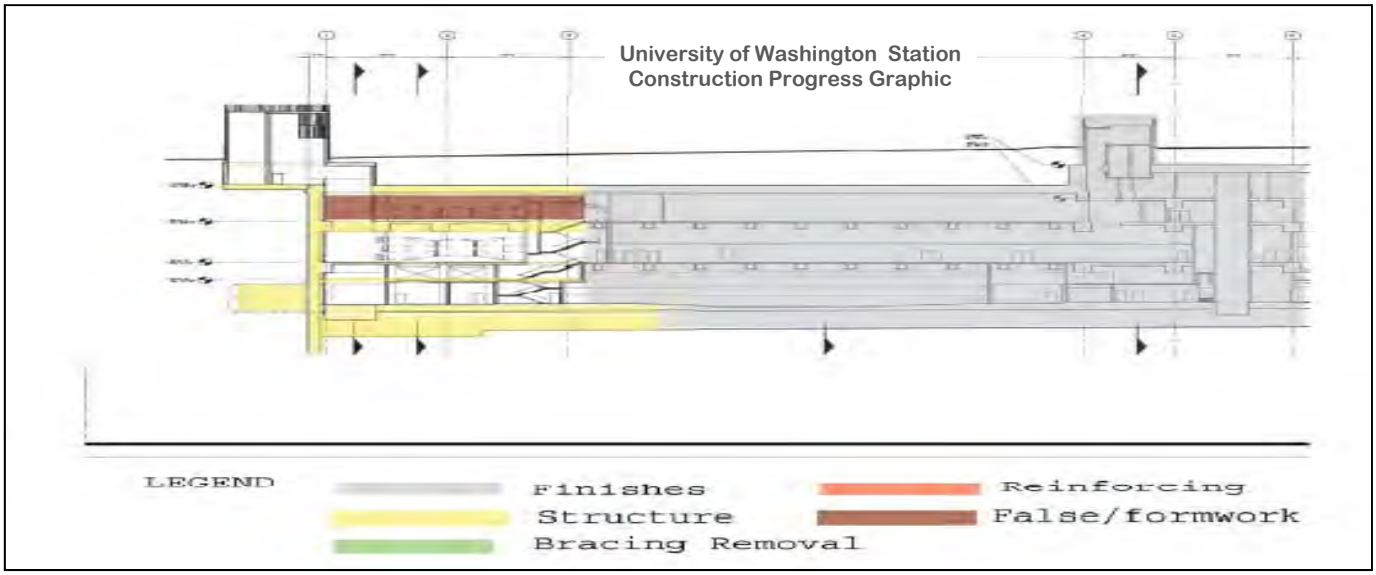
Present Financial Status	Amount
U240 Contractor - Turner Construction Co.	
Original Contract Value	$104,850,276
Change Order Value	$881,326
Current Contract Value	$105,731,602
Total Actual Cost (Incurred to date)	$37,455,755
Financial Percent Complete:	35%
Physical Percent Complete:	43%
Authorized Contingency	$5,242,514
Contingency Drawdown	$881,326
Contingency Index	2.26

South Mezzanine interior wall form progress at CHS.

U250 Contract – *University of Washington Station*

Current Progress

Grid 1 to 3 Roof Deck has been poured. Milestone #4, Basic Structure Complete is expected to be achieved next period. Platform Level Tile installation is underway. Montlake Triangle activities have been completed and the area has been handed over to the UW. Bike ramp falsework is installed along Montlake Blvd. Coordination between U830 continues as rail installation at the Station and the tunnels is underway. Work progress continued with approximately 89% physical completion against 76% contract time expended.

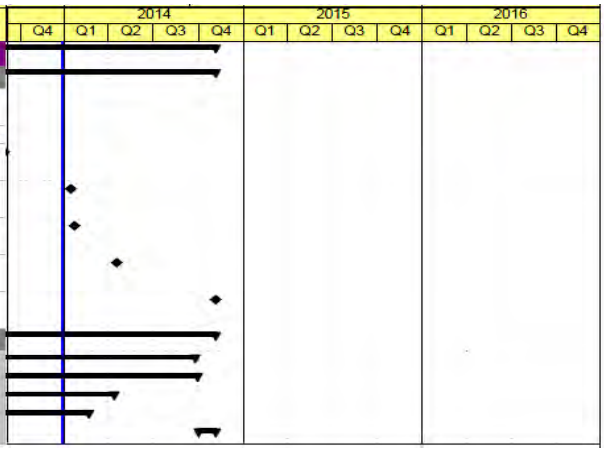


Schedule/Critical Path

Milestone #1, Basic Structure Complete, and Milestone #3, System Room Access in the Station are now complete. Milestone #4 and #5 are expected to be complete next period. Milestone #7, Substantial Completion, is reporting 6 days of positive float. The Contractor is meeting production forecasts at this time.

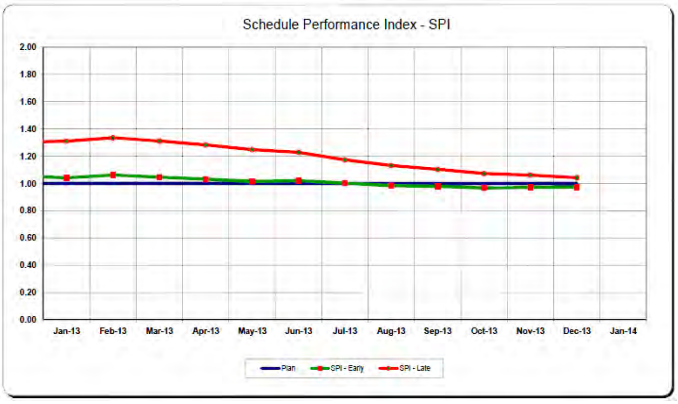
The Critical Path continues through the installation of the station roof slabs, basement level and platform floor slabs under a modified top down construction plan. The U250 Contractor is now mobilized to the south end between Gridlines 1 and 3. U830 completed plinth and rail installation at the Station and is well underway in the SB and NB N04 tunnels. Basic structure completed and all Systems critical rooms are expected to be available to the U830 Systems Contractor, as the station and crossover near completion in the 1st QTR 2014. Final testing and commissioning will then complete the U250 work.

Activity Name	Start	Finish
ULINK U250 - Construction - UW Station	05-Apr-11 A	06-Nov-14
MILESTONES	01-Apr-13 A	06-Nov-14
MILESTONE 1 (727d FROM NTP) (31 Mar 13) ACHIEVE BASIC STRUCTURE COMPLETION OF STATION		01-Apr-13 A
MILESTONE 2 (60d FROM OCC OF EAST BOUNDARY F3) (01 Apr 13)		06-May-13 A
MILESTONE 3 (880d FROM NTP) (31 Aug 13) UWS ROOM ACCESS COMPLETION		30-Aug-13 A
MILESTONE 4 (1031d FROM NTP) (29 Jan 14) BASIC STRUCTURE COMPLETION OF ENTIRE UWS FOR USE BY SYSTEM WIDE		14-Jan-14*
MILESTONE 5 (1033d FROM NTP) (31 Jan 14) UWS ROOM ACCESS COMPLETION FOR ALL SYSTEM ROOMS		21-Jan-14*
MILESTONE 6 (1160d FROM NTP) (07 Jun 14) RESTORATION OF THE SITE OUTSIDE OF THE CONSTRUCTION WORK AREA		17-Apr-14*
MILESTONE 7 SUBSTANTIAL COMPLETION OF ALL WORK (1320d FROM NTP) (14 Nov 14) SUBSTANTION COMPLETION OF ALL WORK		06-Nov-14*
CONSTRUCTION	05-Apr-11 A	05-Nov-14
STATION	05-Apr-11 A	23-Sep-14
CROSSOVER	01-Aug-12 A	30-Sep-14
ABOVE GRADE ENTRY	31-Aug-12 A	11-Apr-14
PEDESTRIAN BRIDGE	29-Feb-12 A	19-Feb-14
LEVEL 2 COMMISSIONING	01-Oct-14	05-Nov-14



Schedule Performance Index

The U250 Schedule Performance Index (SPI) is slightly below 1.00 this period at 0.97. Construction progress is trending per the plan as the Contractor is in full swing of MEP Rough-In and architectural finishes. Milestone #4 (Basic Structure is complete and coordination with U830 is going well. U830 has completed the plinth and rail installation in the station.



Key Activities

Current Period

- Continued formwork and reinforcing for roof slab, Grids 1-3.
- Commenced CMU block wall installation at basement level, grids 1-3.
- Continued curtain wall and metal panel installation at the head house and at the chamber end walls.
- Continue MEP rough-ins in the platform-level ceilings Grids 9 to 17.
- Continued installation of elevator finishes and entrances continued at Elevators 1, 2, and 4.
- Continued electrical trim for the mezzanine-level public areas.
- Continued wall tile throughout the mezzanine and basement levels, and begin floor tile installation.
- *Montlake Triangle Project, SP-1 Pedestrian Bridge:* Continued Elevator 3 cab finishes installation and continued formwork for bike ramp foundation.

Next Period

- Continue formwork and reinforcing for roof slab, Grids 1-3 and grids 6-7.
- Continue CMU block wall installation; achieve structure completion milestone.
- Continue backfilling along the west edge of the site and continue concrete cellular fill from Walla Walla access road.
- Continue with metal panel installation of the chamber end walls; continue MEP rough-ins in the basement, platform and mezzanine levels; and continue mechanical trim for the mezzanine level public areas.
- Contractor to commence testing and commissioning level 2 activities.
- Vertical Transportation: Continue installation of Elevator 1, 2 & 4 including metal panel installation.
- *Montlake Triangle Project, SP-1 Pedestrian Bridge:* Continue Elevator 3 cab finishes installation, Continue formwork for bike ramp.

Closely Monitored Issues

- Sound Transit is reviewing Seattle Fire Department's issues on whether non-emergency utilities passing through tunnel ventilation exhaust passageways on the mezzanine level of the station need to be "fire hardened". Sound Transit to respond to SFD after the reviewing the design team's assessment.

Cost Summary

Present Financial Status	Amount
U250 Contractor - Hoffman Construction Co.	
Original Contract Value	$141,745,898
Change Order Value	$ 2,702,993
Current Contract Value	$144,448,891
Total Actual Cost (Incurred to date)	$122,000,053
Financial Percent Complete:	84%
Physical Percent Complete:	89%
Authorized Contingency	$7,087,295
Contingency Drawdown	$2,702,993
Contingency Index	2.21

Conduit rack installation ongoing.

U830 Contract – *Track, Signal, Traction Power and Communications*

Current Progress

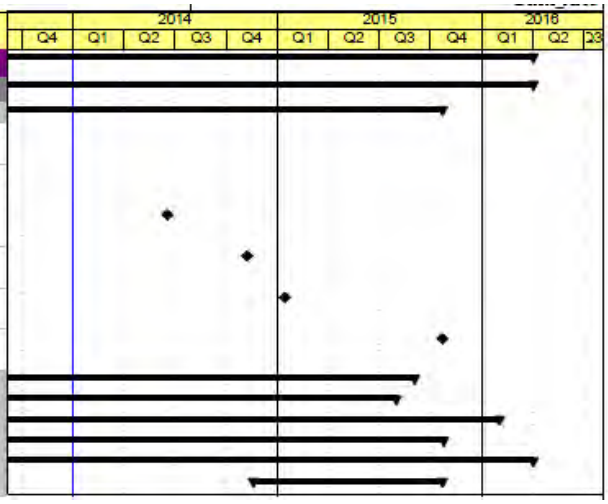
Rail and plinth installation is complete between CHS and PSST. Rail Installation is underway at the UWS and tunnel segment N04. Track construction is now at approx. 38% complete. Coordination between station contractors continues. Construction submittal preparation is ongoing. Work progress continued with approximately 22% physically complete against 38% contract time expended.

Schedule/Critical Path

The schedule update for this period is under review but is expected to be rejected. Milestone #5 (Installation and Testing of existing Alignment Retrofit) is reporting 34 days of negative float. Milestone #6 Substantial Completion is reporting 18 days of negative float. Systems Room Access at CHS is driving U-Link segment Communications Installation through system wide testing. Contractor production rates and construction submittals are being tracked closely.

The Critical Path #1 runs through design submittals and communications equipment procurement and Initial Segment retrofit through system wide testing and substantial completion. Critical Path #2 runs through system room access in July 2014 at CHS for communication cabling and equipment installation. The Coordinated Installation Program may resolve this constraint by utilizing a phased approach to system room access.

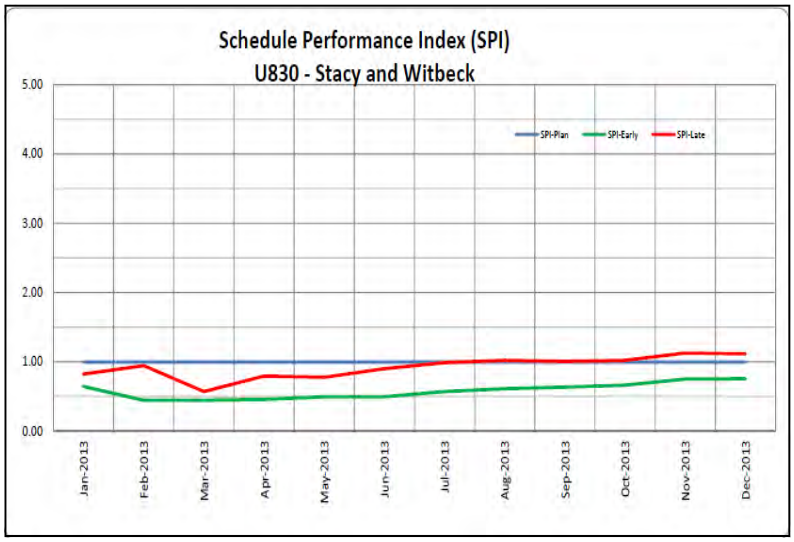
Activity Name	Start	Finish
ULINK U830 - Construction - Track and Systems - Master	01-Nov-12 A	31-Mar-16
Construction Services	01-Nov-12 A	31-Mar-16
Major Milestones	02-May-13 A	22-Oct-15
Milestone 1: Complete Work for Rail Distribution @ Capitol Hill Station Site		02-May-13 A
Milestone 2: Complete Work for Rail Distribution @ UWS		08-Aug-13 A
Milestone 4: Complete Work & Testing for AC Circuit Breaker Switchgear @ UWS		17-Jun-14*
Milestone 3: Complete Work & Testing for AC Circuit Breaker Switchgear @ CHS		07-Nov-14*
Milestone 5: Substantial Completion of Installation & Testing to Commission Existing Alignment Retrofit		13-Jan-15*
Milestone 6: Substantial Completion of Installation & Testing to Commission U-Link Alignment		22-Oct-15*
Trackwork	11-Dec-12 A	02-Sep-15
OCS	11-Dec-12 A	31-Jul-15
Traction Power / Substations	11-Dec-12 A	31-Jan-16
Signals	11-Dec-12 A	23-Oct-15
Communication	01-Nov-12 A	31-Mar-16
Testing and Commissioning	18-Nov-14	22-Oct-15



Schedule Performance Index

The SPI based on early forecast remains below 1.0 at 0.76. Late equipment procurement and delays to construction commencement and design activities were the root cause of the low SPI.

Systems room access at U240 is driving Communication Equipment Installation and Commissioning. The progress towards cutover of the SCADA system on the Initial Segment should be monitored closely.



Key Activities

Current Period

- Contractor has mobilized in the Operation Maintenance Facility (OMF) and began construction renovation.

Trackwork

- Continued track construction between CHS to UWS tunnels (except in last two weeks of December due to holidays).
- Continued to run trial batches of floating slabs and perform pad qualification testing for the pads.
- Special Trackwork – began developing prototype frog assembly and developing fastener qualifications for the double crossover.
- Ongoing shipment of rail fasteners and other materials for rail construction.

Traction Power/Signal/Com-SCADA Systems

- Continued installing supports for tunnel radiax cable between Pine St. and Capitol Hill.
- Ongoing work at UWS - site verification and room layouts, installing conduit, gutters, and cable tray in the communications room, and installing speakers at mezzanine level.
- Continued manufacturing of traction power transformers and rectifiers.
- Ongoing design work for traction power, signal and COM/SCADA work plans and design submittals are in various phases of review and approval.

Next Period

- Ongoing construction renovation at the OMF control room.
- Ongoing track construction between CHS to UWS tunnels.
- Continue to run trial batches of floating slabs and perform pad qualification testing for the pads.
- Continue ongoing development of prototype frog assembly and begin prototype testing.
- Continue ongoing work at UWS - site verification and layout, installing conduit, gutters, and cable tray in the communications room and installing speakers.
- Completing production process of traction power transformers and rectifiers and begin coordinating equipment delivery with station contractors.
- Begin installing radiax hanger and cable between PSST and CHS tunnels.
- Begin installing inner duct in the tunnel between PSST and CHS.

Closely Monitored Issues

- SCADA Cutover Plan: CM team closely monitoring the field verification of the existing SCADA system in preparation for the work plans and testing procedures required for the new SCADA System. CM Team monitoring progress of software development.
- Several critical final design reports (FDR) have been submitted for review which are critical for the next phase of system development. A week-long meeting has been scheduled with the Contractor in mid-January to review these FDRs.

Cost Summary

Present Financial Status	Amount
U830 GC/CM Contractor - Stacy & Witbeck	
Original Contract Value	$119,167,433
Change Order Value	$473,770
Current Contract Value	$119,641,203
Total Actual Cost (Incurred to date)	$31,508,678
Financial Percent Complete	26%
Physical Percent Complete:	22%
Authorized Contingency	$5,958,373
Contingency Drawdown	$473,770
Contingency Index	3.50

Operations and Maintenance Facility renovation ongoing.

U820 Contract - ***LRV Storage and Yard Expansion***

U830 Contract - ***Track, Signal, Traction power and Communications Systems***

P821 Contract - ***Light Rail Vehicles***

C802 Contract - ***Signals Systems (Yard Expansion)***

Other Systems - ***Radio Console, Fare Collection.***

Key Activities

Current Period

U820- LRV Storage and Yard Expansion

- Completed all work and close out.

P821 – Light Rail Vehicles

- Contract Close Out Activities.

C802 - Signals System (Yard Expansion)

- Completed all work but pending close-out.

Other Systems

U860 Network Fiber Network closed out.

- Continued coordination of Agency initiated system network standardization.
- U826 Radio Console upgrade completed and pending close out .
- U835 EMI/Vibration & Wheel flat Monitoring Contract Awarded.

Next Period

P821 – Light Rail Vehicles

- Contract close-out activities.

Other Systems

- Continue coordination of Agency initiated system network standardization.
- U826 Radio Console upgrade is close out
- U835 EMI/Vibration & Wheel flat Monitoring Contract NTP.

Closely Monitored Issues

- None to report this period.

P821 Cost Summary

Present Financial Status	Amount
P821 Manufacturer — Kinkisharyo Intl.*	
Original Contract Value (U-Link Option)	$94,576,095
Change Order Value	$4,598,480
Current Contract Value	$99,174,575
Total Actual Cost (Incurred To Date)	$99,174,575
Financial Percent Complete:	100%
Physical Percent Complete:	100%
Authorized Contingency	$4,608,904
Contingency Drawdown	$4,598,480
Contingency Index	N/A

**Change Order to Initial Segment LRV Contract*

C802 Cost Summary

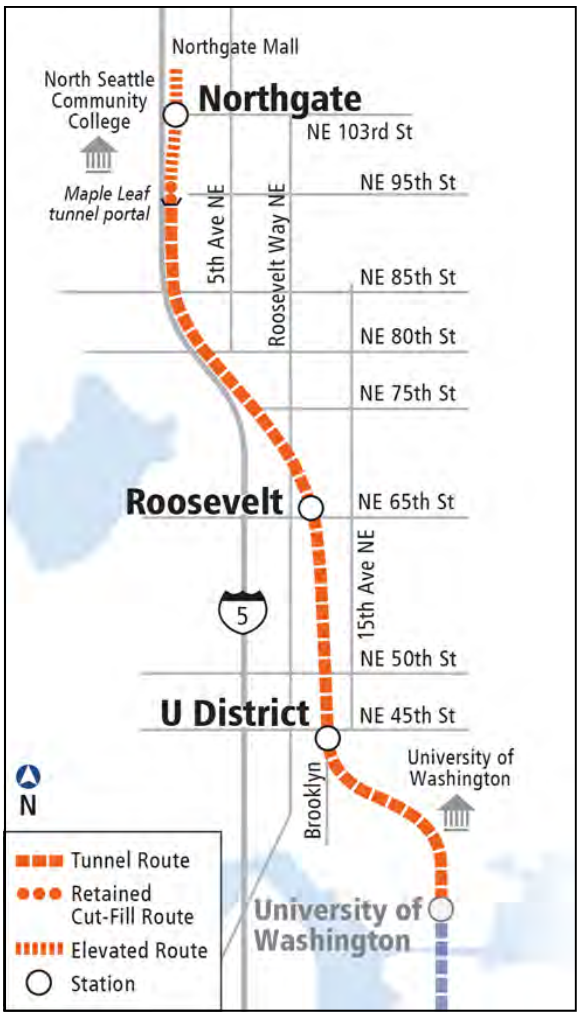
Present Financial Status	Amount
C802 Train Control —GETS* Global Signaling, LLC	
Original Contract Value (U-Link Option)	$1,996,269
Change Order Value	$15,390
Current Contract Value	$2,011,659
Total Actual Cost (Incurred To Date)	$2,011,659
Financial Percent Complete:	100%
Physical Percent Complete:	100%
Authorized Contingency	$103,731
Contingency Drawdown	$15,390
Contingency Index	N/A

**Change Order to Initial Segment Train Control Contract.*
55% of contract costs are assigned to U-Link 45% Northgate Link.

Link Light Rail
Northgate Link Extension

Scope

Limits:	The Northgate Link Extension consists of 4.3 miles of light rail extending from the University of Washington to Northgate.
Alignment:	The extension begins at the UW Station, boring tunnels under campus then continues north to a portal located north of NE 94th Street on the east side of I-5, then transitioning to an aerial structure running north to the Northgate Mall.
Stations:	The U District Station is an underground station located on the west side of the UW campus near Brooklyn Ave. and NE 45th St. The Roosevelt Station is an underground station located near NE 65th St. and 12th Ave NE. The Northgate Station is an elevated station located at the southwest edge of the Northgate Mall property.
Systems:	Include Signals, track electrification, and SCADA communications, and an additional 40 light rail vehicles.
Budget:	$2.131 Billion
Service:	September 2021
Phase:	Final Design and Construction



Map of Northgate Link Extension route and stations.

Key Project Activities

- At the U District Station site, N125 Contractor continued pre-construction surveys and inspections and began installation of monitoring instrumentation.
- At the Roosevelt Station site, N125 Contractor continued installation of the water treatment system, began installation of guide walls for the perimeter slurry wall construction, completed installing construction walls, continued utility protection measures and worked on jet grouting for the tunnel launch at NE 65th St.
- At the Maple Leaf Portal site, Contractor continued soldier pile installation and completed perimeter fencing installation.
- Project staff continued holding work sessions with Simon Property Group (SPG) to discuss parking replacement requirements, options for parking, garage layouts and design and procurement schedules for a new garage. The Park and Ride is anticipated to open in mid-March 2014.
- Staff responded to an inquiry from Congressman Jim McDermott's office regarding a citizen's letter received advocating for open space at the U District Station.
- Final Design continued on two separate contracts to relocate power lines along 1st Ave NE to allow construction of the guideway structure and the Northgate Station.

Closely Monitored Issues

- Final Design work has been resumed on the N160 Aerial Guideway and Northgate Station. Sound Transit continues to coordinate with KCM, WSDOT and the City of Seattle on implementation of the revised design as directed by the Executive Steering Committee.
- Continued working with WSDOT to finalize approvals of agreements related to the Airspace Lease required for N125 work in WSDOT right-of-way.
- Continued to explore alternatives for both temporary parking replacement and permanent parking accommodations for the Northgate Station.

Project Cost Summary

The Northgate Link project cost is summarized below by two cost categorizations. In the first table, the cost is summarized in accordance with Sound Transit's Work Breakdown Structure (WBS). The second table summarizes the project in accordance with the FTA's Standard Cost Category (SCC) format. The figures in both tables are shown in millions.

Cost Summary by Phase

Project Phase	Baseline Budget	Current Adopted Budget	Commitment to Date	Incurred to Date	Estimated Final Cost (EFC)	Adopted Budget vs. EFC
ADMINISTRATION	$149.5	$149.5	$15.2	$17.4	$149.5	$0.0
PRELIMINARY ENGINEERING	$15.1	$15.1	$15.1	$15.1	$15.1	$0.0
FINAL DESIGN	$113.1	$113.1	$97.3	$62.9	$115.5	$(2.3)
CONSTRUCTION SERVICES	$112.1	$112.1	$76.7	$4.2	$112.1	$0.0
3rd PARTY AGREEMENTS	$11.0	$11.0	$10.5	$2.6	$11.0	$0.0
CONSTRUCTION	$1,323.5	$1,323.5	$463.7	$38.6	$1,321.9	$1.6
VEHICLES	$259.1	$259.1	$0.0	$0.0	$259.1	$0.0
ROW	$148.1	$148.1	$53.2	$52.1	$147.3	$0.8
Total	**$2,131.4**	**$2,131.4**	**$731.8**	**$192.7**	**$2,131.4**	**$0.0**

The Estimated Final Cost (EFC) for the project as of this reporting period is $2,131.4M, which is equal to the project budget. This period approximately $17.5M was incurred, of which $14.1M was for construction, primarily attributable to the N125 construction contract. Another $1.3M was for civil and systems final design and $0.8M was for construction management. The remaining expenditures were for right-of-way, third party coordination, staff, and other direct charges.

Cost Summary by SCC

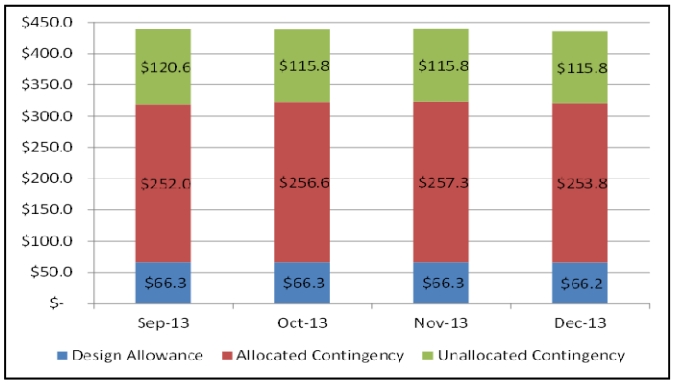
SCC Element	Baseline Budget	Current Adopted Budget	Commitment to Date	Incurred to Date	Estimated Final Cost (EFC)	Adopted Budget vs. EFC
10 GUIDEWAY & TRACK	$615.1	$615.1	$326.7	$19.9	$598.3	$16.8
20 STATIONS	$434.2	$434.2	$39.1	$2.2	$356.5	$77.7
30 SUPPORT FACILITIES: YARD, SHOP	$5.3	$5.3	$5.2	$5.2	$5.2	$0.1
40 SITEWORK & SPECIAL CONDITIONS	$64.3	$64.3	$86.8	$10.0	$131.3	($67.0)
50 SYSTEMS	$110.9	$110.9	$0.9	$0.9	$110.9	$0.0
Construction Subtotal (SCC 10 - 50)	**$1,229.9**	**$1,229.9**	**$458.7**	**$38.2**	**$1,202.3**	**$27.6**
60 ROW, LAND, EXISTING IMPROVEMENTS	$143.1	$143.1	$53.2	$52.1	$142.3	$0.7
70 VEHICLES	$236.9	$236.9	$0.0	$0.0	$236.9	$0.0
80 PROFESSIONAL SERVICES	$400.8	$400.8	$219.8	$102.4	$406.3	($5.5)
90 CONTINGENCY	$120.8	$120.8	$0.0	$0.0	$143.6	($22.8)
Capital Total (SCC 10 - 90)	**$2,131.4**	**$2,131.4**	**$731.8**	**$192.7**	**$2,131.4**	**$0.0**

The EFC for some contract packages have been reassessed and revised as a result of the award of Contract N125 at an amount lower than the adopted budget (the market risk for this contract is drastically reduced). The variances associated with some of the SCC groups shown above reflect the updated EFC due to the reassessment effort.

Cost Contingency Status

The current contingency balance for the project is $435.8 million, which is a decrease of $3.6 million from the previous reporting period (see below for details on changes during this period). Overall, the current contingency balance is an increase of $39.6 above the baseline. Current contingency balance is 22.5% of project work remaining.

Contingency Status	Baseline		Current	
	Amount	% of Total	Amount	% of Work Remaining
Design Allowance	$ 113.9	5.3%	$ 66.2	3.4%
Allocated Contingency	$ 184.0	8.6%	$ 253.8	13.1%
Unallocated Contingency	$ 98.3	4.6%	$ 115.8	6.0%
Total	**$ 396.2**	**18.6%**	**$ 435.8**	**22.5%**



Cost Contingency Status, continued

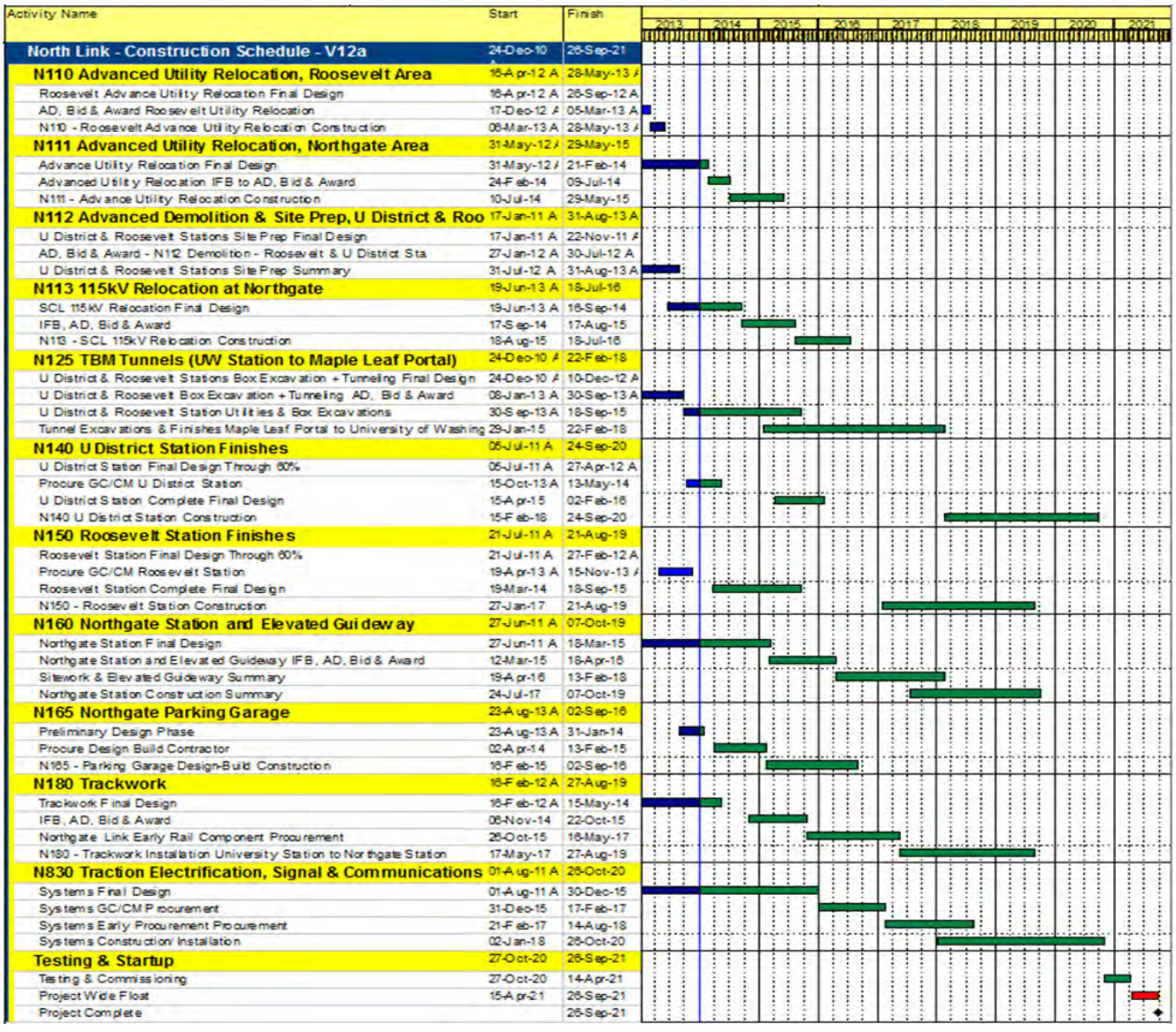
Design Allowance – Compared to the baseline amount of $113.9 million, Design Allowance has decreased by $47.7 million to $66.2 million. A slight decrease occurred this period due to Contract N111 90% cost estimate update.

Allocated Contingency – Compared to the baseline amount of $184.0 million, Allocated Contingency has increased by $69.8 million to $253.8 million. During this reporting period Allocated Contingency decreased by $3.5 due to Contract N111 90% cost estimate update.

Unallocated Contingency – Compared to the baseline amount of $98.3 million, Unallocated Contingency has increased by $17.5 million to $115.8 million. No changes to Unallocated Contingency occurred during this reporting period.

Project Schedule

The N125 tunnel contract is now three months into mobilization and site work and began support of excavation at Roosevelt Station and Maple Leaf Portal. TBM mobilization is underway and on schedule for launch in the 2nd QTR 2014. N150 Roosevelt Station GC/CM contractor is gearing up for its preconstruction role, with station construction expected to commence in early 2017. N140 U District Station GC/CM preconstruction contract award is expected in the 2nd QTR 2014. The N180 rail contract is not expected to begin work until 2nd QTR 2017. Systems contact is expected to follow in 1st QTR 2018.

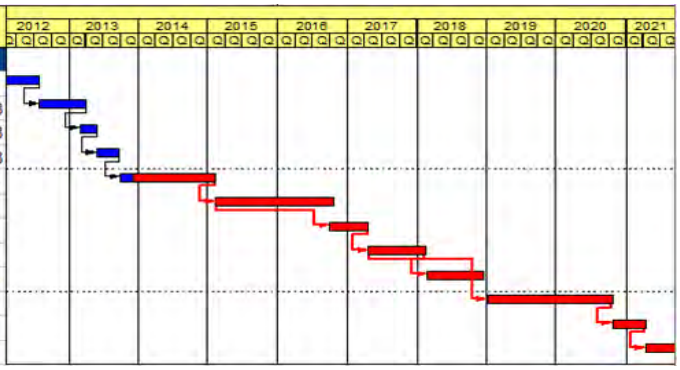


Activity Name	Start	Finish
North Link - Construction Schedule - V12a	24-Dec-10	26-Sep-21
N110 Advanced Utility Relocation, Roosevelt Area	16-Apr-12 A	28-May-13 A
Roosevelt Advance Utility Relocation Final Design	16-Apr-12 A	26-Sep-12 A
AD, Bid & Award Roosevelt Utility Relocation	17-Dec-12 A	05-Mar-13 A
N110 - Roosevelt Advance Utility Relocation Construction	06-Mar-13 A	28-May-13 A
N111 Advanced Utility Relocation, Northgate Area	31-May-12 A	29-May-15
Advance Utility Relocation Final Design	31-May-12 A	21-Feb-14
Advanced Utility Relocation IFB to AD, Bid & Award	24-Feb-14	09-Jul-14
N111 - Advance Utility Relocation Construction	10-Jul-14	29-May-15
N112 Advanced Demolition & Site Prep, U District & Roo	17-Jan-11 A	31-Aug-13 A
U District & Roosevelt Stations Site Prep Final Design	17-Jan-11 A	22-Nov-11 A
AD, Bid & Award - N112 Demolition - Roosevelt & U District Sta	27-Jan-12 A	30-Jul-12 A
U District & Roosevelt Stations Site Prep Summary	31-Jul-12 A	31-Aug-13 A
N113 115kV Relocation at Northgate	19-Jun-13 A	18-Jul-16
SCL 115kV Relocation Final Design	19-Jun-13 A	16-Sep-14
IFB, AD, Bid & Award	17-Sep-14	17-Aug-15
N113 - SCL 115kV Relocation Construction	18-Aug-15	18-Jul-16
N125 TBM Tunnels (UW Station to Maple Leaf Portal)	24-Dec-10 A	22-Feb-18
U District & Roosevelt Stations Box Excavation + Tunneling Final Design	24-Dec-10 A	10-Dec-12 A
U District & Roosevelt Box Excavation + Tunneling AD, Bid & Award	08-Jan-13 A	30-Sep-13 A
U District & Roosevelt Station Utilities & Box Excavations	30-Sep-13 A	18-Sep-15
Tunnel Excavations & Finishes Maple Leaf Portal to University of Washing	29-Jan-15	22-Feb-18
N140 U District Station Finishes	05-Jul-11 A	24-Sep-20
U District Station Final Design Through 60%	05-Jul-11 A	27-Apr-12 A
Procure GC/CM U District Station	15-Oct-13 A	13-May-14
U District Station Complete Final Design	15-Apr-15	02-Feb-16
N140 U District Station Construction	15-Feb-16	24-Sep-20
N150 Roosevelt Station Finishes	21-Jul-11 A	21-Aug-19
Roosevelt Station Final Design Through 60%	21-Jul-11 A	27-Feb-12 A
Procure GC/CM Roosevelt Station	19-Apr-13 A	15-Nov-13 A
Roosevelt Station Complete Final Design	19-Mar-14	18-Sep-15
N150 - Roosevelt Station Construction	27-Jan-17	21-Aug-19
N160 Northgate Station and Elevated Guideway	27-Jun-11 A	07-Oct-19
Northgate Station Final Design	27-Jun-11 A	18-Mar-15
Northgate Station and Elevated Guideway IFB, AD, Bid & Award	12-Mar-15	18-Apr-16
Sitework & Elevated Guideway Summary	19-Apr-16	13-Feb-18
Northgate Station Construction Summary	24-Jul-17	07-Oct-19
N165 Northgate Parking Garage	23-Aug-13 A	02-Sep-16
Preliminary Design Phase	23-Aug-13 A	31-Jan-14
Procure Design Build Contractor	02-Apr-14	13-Feb-15
N165 - Parking Garage Design-Build Construction	16-Feb-15	02-Sep-16
N180 Trackwork	16-Feb-12 A	27-Aug-19
Trackwork Final Design	16-Feb-12 A	15-May-14
IFB, AD, Bid & Award	06-Nov-14	22-Oct-15
Northgate Link Early Rail Component Procurement	26-Oct-15	16-May-17
N180 - Trackwork Installation University Station to Northgate Station	17-May-17	27-Aug-19
N830 Traction Electrification, Signal & Communications	01-Aug-11 A	26-Oct-20
Systems Final Design	01-Aug-11 A	30-Dec-15
Systems GC/CM Procurement	31-Dec-15	17-Feb-17
Systems Early Procurement Procurement	21-Feb-17	14-Aug-18
Systems Construction/ Installation	02-Jan-18	26-Oct-20
Testing & Startup	27-Oct-20	26-Sep-21
Testing & Commissioning	27-Oct-20	14-Apr-21
Project Wide Float	15-Apr-21	26-Sep-21
Project Complete		26-Sep-21

Critical Path Analysis

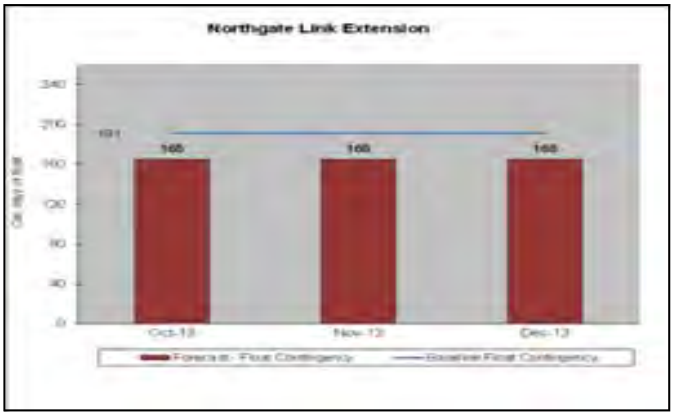
The current critical path for Northgate Link consists of work under the N125 contract including excavation of the underground station shafts, tunnel mining, cross passage work and tunnel mechanical & electrical, followed by the N180 contract rail installation. The N830 Systems contract will follow with both station and track related OCS, signal and traction power. When the N125 Contractor's baseline schedule is accepted, any resulting adjustments to the critical path will be incorporated into the Master Schedule.

Activity Name	Start	Finish
Northgate Link Extension - Summary Critical P	27-Jan-12 A	26-Sep-21
N112 Contractor Procurement	27-Jan-12 A	31-Jul-12 A
N112 Roosevelt Station Demo & Site Prep	01-Aug-12	29-Mar-13
N110 Roosevelt Site Advanced Utility Relocation	03-Mar-13	28-May-13
Owner Controlled Float	29-May-13	28-Sep-13
N125 Roosevelt Station Box Excavation	30-Sep-13	12-Feb-15
N125 Tunneling Maple Leaf Portal to Roosevelt Station	13-Feb-15	21-Oct-16
N125 Tunnel Cross-Passages	03-Oct-16	25-Apr-17
N125 Tunnel MEP	26-Apr-17*	22-Feb-18
N180 Trackwork Maple Leaf Portal to University Station	23-Feb-18	21-Dec-18
N830 Mechanical & Electrical Systems Installation	09-Jan-19*	26-Oct-20
System-Wide Testing and Startup	27-Oct-20	14-Apr-21
Revenue Service Window/Project Float	15-Apr-21	26-Sep-21



Critical Path Float

Northgate Link was baselined in 2012 with 191 days of project-wide float. In 2013, some of that time was used as buffers at critical interfaces between adjacent contracts in the N125 procurement. Additional three days were used when the actual September 2013 NTP date was three days later than the assumed baseline NTP date. The adjacent graph represents the current project-wide float contingency of 165 days prior to Revenue Service in September 2021.



Construction Safety

Safety Statistics for the reporting period and year-to-date are summarized in the table below.

Data/Measure	December 2013	Year to Date	Project to Date
Recordable Injury/Illness Cases	0	0	0
Days Away From Work Cases	0	0	0
Total Days Away From Work	0	0	0
Restricted or Modified Work Cases	0	0	0
Total Days Restricted or Modified Work	0	0	0
First Aid Cases	0	0	0
Reported Near Mishaps	2	8	8
Average Number of Employees on Worksite	113	-	-
Total # of Hours (GC & Subs)	14,517	24,142	28,039
OSHA Incident Rates	**Monthly Average**	**Year to Date**	**Project to Date**
Recordable Injury Rate	0.00	0.00	0.00
DART Rate	0.00	0.00	0.00
Recordable National Average	**3.70**	**3.70**	**3.70**
DART National Average	**2.00**	**2.00**	**2.00**
Recordable WA State Average	**6.50**	**6.50**	**6.50**
DART WA State Average	**3.40**	**3.40**	**3.40**

Right of Way

The U District and Roosevelt stations require the acquisition of a range of property interests including fee takings for stations and staging areas; tunnel easements are required for the running tunnel. These acquisitions will result in owner and tenant, residential and commercial relocations. The right-of-way status as of this period is summarized below.

Line Section	Total Parcels Certified	Offers Made	Signed Agreements	Admin. Settlements	Possession and Use	Closings to date	Baseline Relocations Required	Relocations Completed
U District Station	16	15	0	0	5	10	3	1
Roosevelt Station	20	19	0	0	0	19	26	26
Tunnel Easements	190	188	1	0	12	169	0	0
Northgate Station	8	6	0	0	0	1	0	0
Total	**234**	**228**	**1**	**0**	**17**	**199**	**29**	**27**

Roosevelt Station – All required parcels have been acquired.

U District Station – All of the required parcels have been acquired or have granted Possession and Use. Signed Administrative Settlements for 5 parcels. TCE Activation letter sent to one parcel.

Tunnel Easements : *UW Station to U District Station* - Settlement reached for one parcel. All parcels have been acquired except for one scheduled for condemnation. *Roosevelt Station to Northgate Station*– All required parcels have been acquired, except for three parcels scheduled for condemnation.

Northgate Station - Appraisal in process for two parcels.

Quality Assurance Activities

Activities

- None to report.

Issues

- N111 90% Audit Findings regarding missing Geotechnical Characterization Report info on Contract Documents and incomplete Specification Section of Underground Conduit and Duct Banks.

Summary

Description	Dec 2013	Notes
No. of Audits Planned	0	None
No. of Audits Completed	1	N180 100% Submittal
Reports in Progress	0	None
No. of Audits Postponed	0	N180 100% Submittal

Environmental

- Finalizing agreements for wetland mitigation. Preparing and coordinating with WSDOT to obtain permit for settlement monitor and monitoring well installation.

Sound Transit Board Actions

Board Action	Description	Date
	None to report this period.	

Community Outreach

- Hosted an open house at the Neptune Theater and provided U District Station construction information.
- Met with the UW Tower representatives and discussed the start of the U District construction mobilization; notified stakeholders of the construction work starting mid– December.
- Emailed a construction alert to the Roosevelt Station GovDelivery list about lane closure on 12th Avenue NE.
- Finalized Roosevelt Station's sidewalk sticker pedestrian safety pilot program evaluation plan with traffic consultant.
- Maintained Outreach presence at the start of a 3-monthly long lane and sidewalk closure on NE 65th Street.
- Staffed an information session at the North Seattle Community College to inform residents (35 attendees) of the lines that need to be relocated before construction of the Northgate Lynnwood Link Extensions.
- Continued gathering public comments regarding the transmission line and pole relocations in advance of Northgate Station construction.

Business Mitigation

- Gave out construction and business mitigation marketing updates during the Roosevelt Neighborhood Association business group meeting.
- Printed and installed custom business signage on Roosevelt construction fence.

Final Design Overview

Sound Transit has executed two key contracts with professional services consultants for the Final Design of the Northgate Link Extension. Jacobs Associates (JA) is providing civil engineering and architectural final design services. LTK Engineering Services (LTK) is providing systems engineering final design services.

Final Design Activities

Contract Package N111 –*Advanced Electrical Utility Relocation at Northgate Station Vicinity*:

- Continued development of 100% design package.
- Prepared 10% Utility Major Permit signed drawing set and submitted to ST for delivery to City of Seattle DPD.

Contract Package N113 –*115kV Relocation at Northgate Sta.*

- 60% Design effort on temporary hold and submission date pushed out to March 2014 to allow sufficient time for attending to actions arising from December outreach.

Contract Package N140 - *U District Sta. Civil and Finishes:*

- Design effort on hold (at 60%) pending ongoing GC/CM procurement.

Contract Package N150 - *Roosevelt Sta. Civil and Finishes*:

- Design effort on hold (at 60%) pending GC/CM mobilization and integration.
- Attended weekly meetings with ST and GC/CM team.
- Reviewed and responded to GC/CM RFIs as required.

Contract Package N160 - *Northgate Sta. and Aerial Guideway Civil and Finishes:*

- Continued with 90% design effort.
- Continued coordination and integration of King County Metro program into the station design.
- Continued with preparation and assessment for alternatives for Parking Garage on SPG Northgate property as directed by ST.

Contract Package N165 – *Northgate Parking Garage:*

- None to report this period.

Contract Package N180 – *Trackwork*:

- Completed 100% design effort, with exception of final coordination with other contracts, final input into specification sections, and incorporation of recent ST comments.
- Continued working on outstanding issues.

Contract Package N830 – *Traction Electrification, Signals, and Communications:*

- Finalized the QC process of cabling plans and specification sections to be included in the N180 contract.
- Performed modeling for N160 station for public address system speaker locations.
- Developed Maple Leaf Portal high rail and maintenance gate communications gate interface requirements.

Final Design Schedule

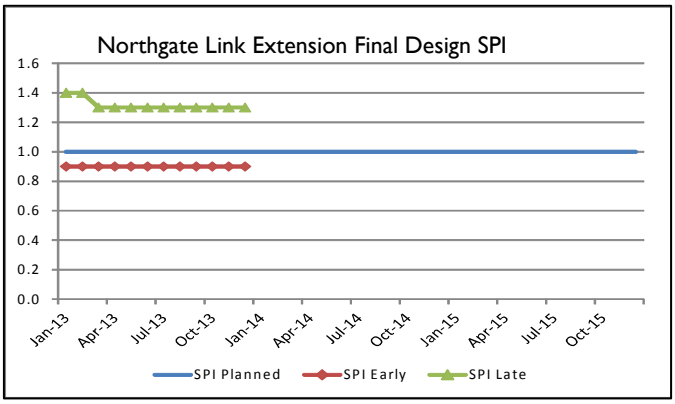
The table below summarizes the current civil Final Design submittal schedule for each contract package.

Work Packages	60%		90%		100% to ST	
	Plan	F/A*	Plan	F/A*	Plan	F/A*
N111 Advanced Utility Relocation – Northgate	12/21/2012	5/23/2013A	3/29/2013	10/15/2013A	7/12/2013	1/21/2014
N113 115kV Relocation at Northgate	10/29/2013	3/28/2014	3/27/2014	5/30/2014	6/19/2014	8/15/2014
N140 U District Station Finishes	12/24/2011	4/27/2012A	9/18/2012	3/27/2015	5/10/2013	12/17/2015
N150 Roosevelt Station Finishes	4/13/2012	2/27/2012A	1/28/2013	11/11/2014	10/23/2013	8/5/2015
N160 Northgate Sta. Civil/Finishes/Guideway	6/27/2012	10/5/2012A	4/17/2013	2/14/2014	11/26/2013	9/5/2014
N180 Trackwork	8/23/2012	8/23/2012A	5/22/2013	4/8/2013A	8/26/2013	5/14/2014
N830 Traction Electrification, Signals, Communications	12/12/2012	12/20/2012A	4/10/2014	5/11/2015	12/9/2014	1/28/2016

F/A* = Forecast/Actual

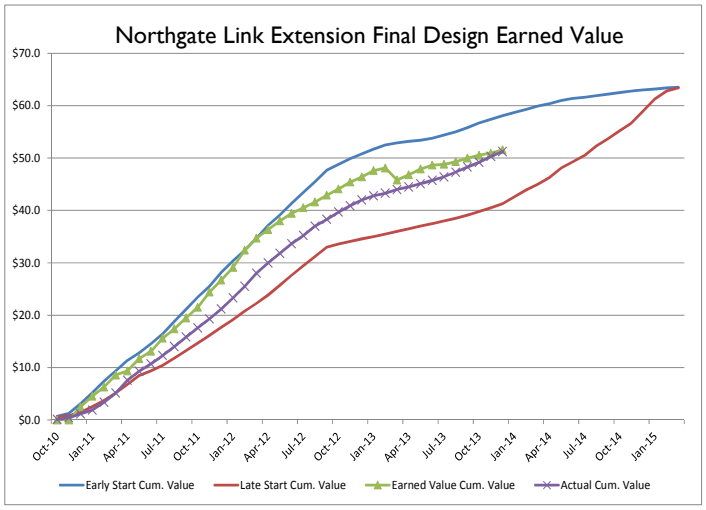
Final Design Schedule Performance

For Final Design activities only, the Schedule Performance Index (SPI) reported this period is 0.9 based on the early start dates. The design consultant is meeting all of their design deliverable milestones.



Final Design Cost Performance

Through this period, the total amount spent for Civil Final Design is $52.3M, which is approximately 61% of the total contract amount. For final design activities only, the total amount spent is $51.2M, which is approximately 80.7%. The consultant reported 81.2% complete for final design activities, resulting in an Earned Value of $51.6M. The cumulative Cost Performance Index (CPI) is currently 1.0, which indicates expenditures are in line with planned cost (Earned Value). Based on the current CPI trend, final cost is expected to be within budget.



Performance	Previous Period	Current Period	Cumulative To Date
Amount Invoiced	$50,321,138	$917,399	$51,238,537
% Spent	79.2%	1.4%	80.7%
Earned Value	$50,926,334	$629,715	$51,556,049
% Complete	80.2%	1.0%	81.2%
CPI	**1.0**	**0.7**	**1.0**

Other Key Final Design Activities

Geotechnical Investigation

- Completed draft Geotechnical Considerations Report (GCR) for Contract N111.
- Waiting for approval to commence Contract N113 pole exploration program.

Surveying and ROW

- Updated ROW plans, parcel maps and exhibits as required.
- Performed utility probe of 100th St./1st Ave. storm.

Permits

- Submitted ROD Matrix for Contract N111 90% design package.
- Reviewed ROD commitments for compliance with Contract N160 design and MUP application for Northgate Station and parking structure.
- Finalized memo regarding additional wetland along 1st Ave NE north of NE 105th St.

Construction Noise Variances

- None to report this period.

·*Noise Mitigation for At Grade and Elevated Guideway*

- None to report this period.

·*Ground Borne Noise and Vibration*

- Prepared UW vibration predictions.
- Continued to expand spreadsheet model to accommodated revised Group II building criteria and revised baseline vibration and current predictions.
- Performed and evaluated 2013 Beacon Hill tunnel surface measurements and developed work plan for additional testing.

· *Construction Cost Estimating*

- Resubmitted revised conceptual level cost estimate for Contract N165.
- Submitted Contract N180 pre-100% construction cost estimate.

· *Construction Schedules*

- Prepared and submitted Contract N111 90% construction schedule.

· *Quality Assurance*

- Prepared to circulate for review the proposed updates to Final Design Quality Manual.

Design and Project Integration

- Continued contract specific coordination meetings for active contracts.
- Provided coordination and integration between all contracts in the Northgate area.
- Continued contract specific coordination meetings for active contracts.
- Integration and coordination with Contract N160 station artist and Systems Consultant (LTK) continued as required.

Major Construction Contract Packages

Construction of the Northgate Link Extension consists of eight major construction contract packages: seven civil packages and one combined systems package. Below is a brief scope description for each of these contract packages:

N110 Utility Relocation at Roosevelt Station Area - Relocation of electrical and communication facilities at the Roosevelt Station site. (Complete)

N111 Utility Relocation at Maple Leaf Portal and Northgate Station Area– Relocation of electrical facilities at the Maple Leaf Portal and Northgate Station Areas.

N112 U District and Roosevelt Station Site Preparation - Demolition of existing structures, grading and paving at the U District and Roosevelt Station sites. (Complete)

N113 115kV Relocation at Northgate Station Area - Relocation of overhead electrical facilities at the Northgate Station area.

N125 TBM Tunnels UW Station to Maple Leaf Portal - Tunneling work and support of excavation of station boxes for the U District and Roosevelt stations.

N140 U District Station Finishes - Civil and architectural finishes work for the U District Station.

N150 Roosevelt Station Finishes– Civil and architectural finishes work for the Roosevelt Station.

N160 Northgate Station & Elevated Guideway - Civil and architectural finishes work for the Maple Leaf Portal, the aerial guideway, and the Northgate Station and Tail Track.

N165 Northgate Parking Garage - Construction of a 450 stall parking garage to be located at the south corner of the existing Northgate Mall surface parking lot at NE 103rd St. near 1st Avenue NE.

N830 Track Electrification, Signals, Communication System, and Track - Installation of the major system elements – Traction Electrification, 26kV Distribution, Signals, and Communications and all Trackwork.

Construction Schedule Highlights

This table shows the currently calculated dates of key milestones for each of the major Northgate Link Extension contracts.

Package	Bid Advertisement	NTP	Substantial Completion
N110 – Utility Relo at Roosevelt Station	Dec 2012A	Mar 2013A	May 2013A
N111 – Utility Relo at Northgate Area[1]	Feb 2014	Jul 2014	May 2015
N112 – U District & Roosevelt Site Prep	Jan 2012A	Aug 2012 A	Aug 2013A
N113 - SCL 115kV Relocate[2]	Nov 2014	Jul 2015	Jun 2016
N125 – TBM Tunnels[3]	Jan 2013A	Sep 2013A	Feb 2018
N140 – U District Station Finishes	Oct 2013 (GC/CM Precon)	Feb 2018 (construction)	Sep 2020
N150 – Roosevelt Station Finishes	Apr 2013A (GC/CM Precon)	Jan 2017 (construction)	Aug 2019
N160 – Northgate Station & Guideway[4]	March 2015	Apr 2016	Oct 2019
N165 –Northgate Parking Garage	Dec 2014 (DB Procurement)	Feb 2015	Sep 2016
N180– Floating Slab & Trackwork[5]	Mar 2015	Sep 2015	Aug 2019
N830 – Systems & Track[6]	Dec 2015 (GC/CM Precon)	Jan 2018 (construction)	Oct 2020

A = Actual

Note: (1) N111 Substantial Completion is May 2015. SCL has work allowance of 9-months for scheduling, installing cable and weather impacts.

(2) N113– Community concerns delaying final design– min. of two months unrecoverable contract delay but no overall project delay.

(3) N125- Substantial Completion includes 30 calendar days of ST Controlled Float to Feb 2018.

(4) N160– Right of Way clearance poses possible 2-month contract delay.

(5) N180- Trackwork advertisement to be delayed to accommodate Industry Review before completing design, will not impact contract's Substantial Completion.

(5) *N830-Systems has Feb 2017 NTP for early engineering and procurement. Start of construction is planned for January 2018.*

Contract N110 - Advanced Utility Relocation at Roosevelt Station Area

Current Progress

All contract work was completed in May 2013. The contract is in close-out.

Cost Summary

Present Financial Status	Amount
N110 Contractor—Titan Earthwork	
Original Contract Value	$ 404,324
Change Order Value	$ -
Current Contract Value	$ 386,397
Total Actual Cost (Amount Billed)	$ 386,397
Financial Percent Complete:	96%
Physical Percent Complete:	100%
Authorized Contingency	$ 40,433
Contingency Drawdown	$-
Contingency Index	N/A

Contract N112 - U District and Roosevelt Station Site Preparations

Current Progress

Substantial Completion was issued to the Contractor on August 15, 2013. The final payment will be processed and the contract is pending close-out.

Cost Summary

Present Financial Status	Amount
N112 Contractor - Titan Earthwork	
Original Contract Value	$ 4,444,444
Change Order Value	$ 533.166
Current Contract Value	$ 3,911,278
Total Actual Cost (Amount Billed)	$ 3,906,572
Financial Percent Complete:	99%
Physical Percent Complete:	100%
Authorized Contingency	$ 444,445
Contingency Drawdown	$ 533,166
Contingency Index	N/A

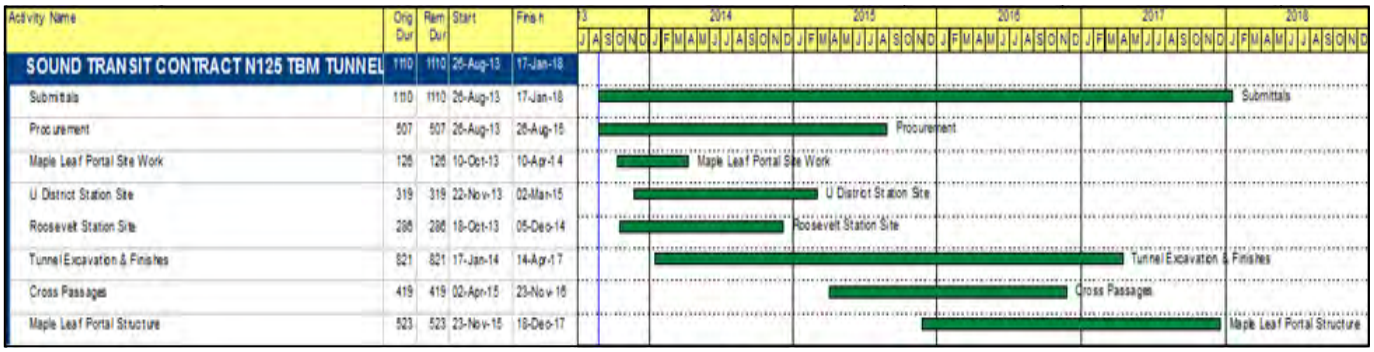
Contract N125 – TBM Tunnels

Current Progress

During this reporting period, the Contractor began support of excavation at Maple Leaf Portal (MLP) for TBM launch and at Roosevelt Station, for the station box excavation. Continuing work also includes relocating utilities, installation and calibration of instrumentation, and jet grouting. Preparations are also under way to receive the first TBM on site next period.

Schedule/Critical Path

Although the Contractor is still refining its Baseline Schedule it is clear that there are two immediate critical areas of work: preparation of the TBM launch area at MLP, and preparation to excavate the Roosevelt Station box to receive the TBM as it makes its journey south from MLP. TBM excavation is expected to begin in 2nd QTR 2014 with the critical path transitioning to tunnel finishes and cross passages in 3rd QTR 2015 and concluding with the MLP structure beginning around 3rd QTR 2016. Substantial Completion is expected in the 1st QTR 2018. See the Contractor's currently unapproved baseline schedule below.


Activity Name
Orig Dur
Rem Dur
Start
Finish
2014
2015
2016
2017
2018
SOUND TRANSIT CONTRACT N125 TBM TUNNEL 1110 1110 26-Aug-13 17-Jan-18
Submittals 1110 1110 26-Aug-13 17-Jan-18
Procurement 507 507 26-Aug-13 26-Aug-15
Maple Leaf Portal Site Work 126 126 10-Oct-13 10-Apr-14
U District Station Site 319 319 22-Nov-13 02-Mar-15
Roosevelt Station Site 286 286 18-Oct-13 05-Dec-14
Tunnel Excavation & Finishes 821 821 17-Jan-14 14-Apr-17
Cross Passages 419 419 02-Apr-15 23-Nov-16
Maple Leaf Portal Structure 523 523 23-Nov-15 18-Dec-17

Schedule Performance

Schedule Performance Index (SPI) is currently unavailable for this contract. It will be provided once the Contractor's baseline schedule is accepted.

Link Light Rail
Northgate Link Extension - Construction

Key Activities

Current Period

Maple Leaf Portal (MLP)

- Delivered front and middle section of TBM1 to MLP site.
- Installed NE 95th St. electrical vault.
- Completed demobilization of jet grout block operation.
- Continued soldier pile installation.
- Continued relocating WSDOT electrical cabinet for the lighting along I-5 at MLP.

Roosevelt Site

- Continued installing construction walls.
- Continued installation of slurry wall guide walls.
- Completed power ductbank installation on NE 67th St.
- Completed abandoning sewer and water services on NE 65th St.
- Began installation of substation & grounding grid.

U District Site

- Completed observation wells drilling.
- Continued pre-construction survey and inspection.
- Completed installation of k-rail barriers along UW Tower.

Next Period

- Begin casting two preproduction segment rings by CSI, the segment manufacturer.
- Continue shipping TBM components to MLP site.

Maple Leaf Portal (MLP)

- Continue relocating WSDOT electrical cabinet for the lighting along I-5 at MLP.
- Continue installation of soldier piles along east and west shoring wall.
- Begin mass excavation and tieback verification tests.

Roosevelt Site

- Continue installation of construction walls.
- Continue installation of substation and grounding grid.

U District Site

- Begin installation of 10" DI sewer on Brooklyn Ave.NE.

Closely Monitored Issues

- JCM's Progress Payment Applications No.3 & 4 on hold until their Construction Baseline Schedule & Schedule of Values is accepted.

Cost Summary

Present Financial Status	Amount
N125Contractor - JCM Northlink	
Original Contract Value	$440,321,000
Change Order Value	$ 424,822
Current Contract Value	$440,745,822
Total Actual Cost (Incurred to date)	$25,077,666
Financial Percent Complete:	5.7%
Physical Percent Complete:	3.0%
Authorized Contingency	$22,016,050
Contingency Drawdown	$ 424,822
Contingency Index	1.5

Settling the TBM shield sections onto skids at Maple Leaf Portal.

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Link Light Rail
Lynnwood Link Extension

Scope

The Lynnwood Link Extension Project entails the identification and evaluation of transit alternatives between Northgate in the City of Seattle to Lynnwood in Snohomish County with service in the cities of Shoreline and Mountlake Terrace. Consistent with FTA New Starts requirements, the project has undergone an Alternative Analysis, completed in the 3rd QTR 2011 and Environmental Scoping, completed in the 4th QTR 2011. Development of the Conceptual Engineering and Draft EIS concluded in 2013. In Nov. 2013, the ST Board identified the preferred route and station alternatives for the Final EIS.

Map of Lynnwood Link Extension route and station alternatives.

Key Project Activities

- Concluded DEIS comment period in September 2013.
- Sound Transit Board identified preferred route and station alternatives in November 2013.
- Phase 3 (Final EIS and Preliminary Engineering) Started in December 2013.

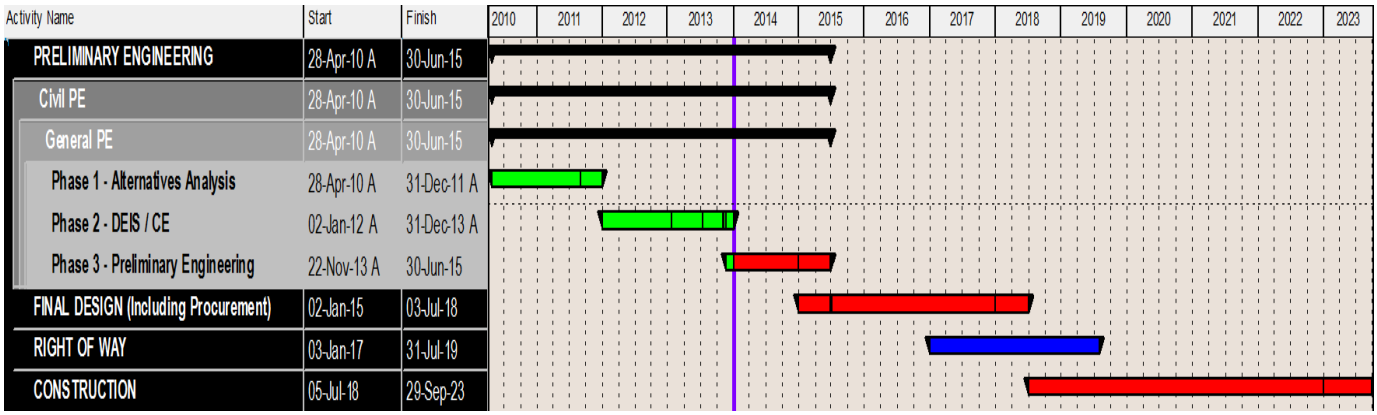
Project Cost Summary

The Lynnwood Link Extension is currently funded through the completion of preliminary engineering (PE) and environmental documentation. Board approval for additional funding for final design and construction will be sought upon completion of PE. Table (below) figures in millions.

Phase	Adopted Budget	Commitment to Date	Incurred to Date	Forecasts and Trends	Estimated Final Cost (EFC)	Budget Versus EFC
Administration	$10.7	$2.9	$3.2	$7.8	$10.7	$0.0
Preliminary Engineering	$44.3	$37.6	$17.3	$6.7	$44.3	$0.0
3rd Party Agreements	$1.0	$0.3	$0.1	$0.7	$1.0	$0.0
Right of Way	$1.1	$0.1	$0.0	$1.0	$1.1	$0.0
Total	**$57.1**	**$40.9**	**$20.7**	**$16.2**	**$57.1**	**$0.0**

Project Schedule

The Lynnwood Link Extension, environmental documentation and preliminary engineering is anticipated to be completed in 2015. The project schedule is presented below. The full Phase 3 schedule will be available in January 2014.



Sound Transit Board Actions

Board Action	Description	Date
	None to report this period.	

Environmental

- Sound Transit Board identified the preferred alternative to include in the Final EIS, which is expected to be issued in early 2015.

Community Outreach

- With the Board's identification of the Preferred Alternative last period, several activities to publicize the decision have occurred. Newsletter will be distributed late January.
- Conducted telephone conferences with three potentially impacted property owners which included reviewing the potential impacts, the decision making process and schedule, the property acquisition process and the overall project.

Phase 2 Conceptual Engineering and DEIS Overview

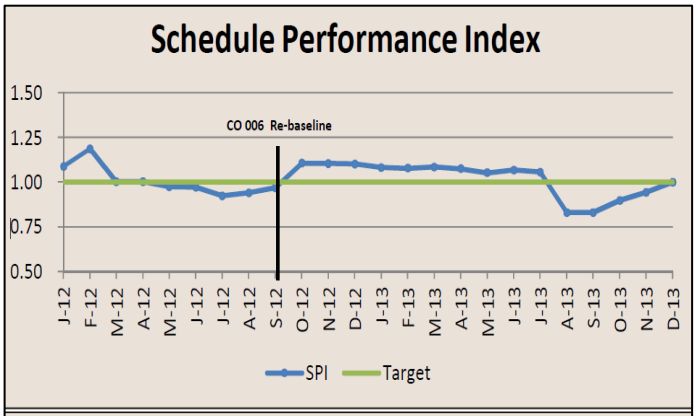
Sound Transit executed a professional services agreement with North Corridor Transit Partners (NCTP) for civil engineering and architectural design services in April 2010. Sound Transit issued Notice to Proceed for Phase 2, Conceptual Engineering and DEIS for the Lynnwood Link Extension in January 2012.

Phase 2 Key Activities

- Finalized scope and budget for Phase 3 work, with Sound Transit Board approval on November 21, 2013.
- Completed Phase 2 environmental analysis and documentation work, including DEIS comment summary.
- Continued development of selected advanced design work to allow a transition to Phase 3.

Phase 2 Schedule Performance

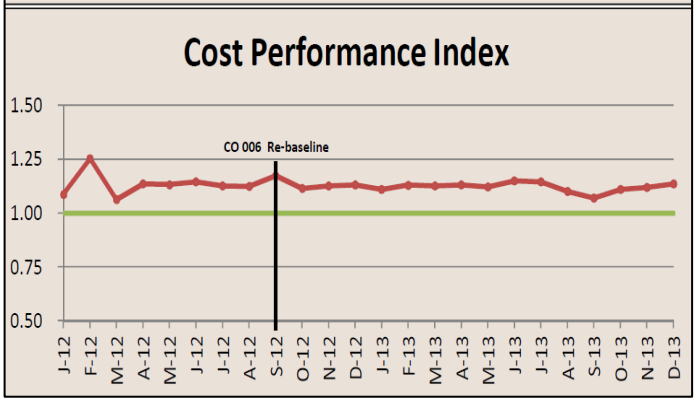
The Consultant completed all Phase 2 scope of work in December 2013, resulting in an earned value equal to planned value, and Schedule Performance Index (SPI) of 1.00.



Phase 2 Cost Performance

$16.4M of the total Phase 1&2 contract amount, approximately 91%, was spent through December. Phase 2 invoices total $11.7M, approximately 88% of the Phase 2 contract amount.

The Phase 2 percent complete at the end of December is 100%, with an earned value of $13.3M. The cumulative Cost Performance Index (CPI) is 1.14, which means that the final Phase 2 expenditures were below the budgeted contract amount.



Phase 2 Performance	Previous Period	Current Period	Cumulative To-date
Amount Invoiced	$11,180,902	$496,349	$11,677,251
% Spent	84%	4%	88%
Earned Value	$12,511,102	$751,300	$13,262,402
% Complete	94%	6%	100%
SPI	**0.94**	**N/A**	**1.00**
CPI	**1.12**	**1.51**	**1.14**

Phase 3 Preliminary Engineering and Final EIS Overview

Sound Transit executed a contract amendment for Phase 3, Preliminary Engineering and Final EIS for Lynnwood Link, in December 2013.

Phase 3 Key Activities

- Developing fully detailed Phase 3 schedule and work plan.

Phase 3 Schedule Performance

Earned value reporting, including the Schedule Performance Index (SPI), will begin in the next reporting period.

Phase 3 Cost Performance

The Phase 3 contract amendment added $18.6M to the contract, for a new total contract amount of $36.6M.

$16.5M of the new Phase 1-3 contract amount, approximately 45%, has been spent through December. Phase 3 invoices total $0.2M, less than 1% of the Phase 3 contract amount. Earned value reporting, including the Cost Performance Index (CPI) will begin in the next reporting period.

Phase 3 Performance	Current Period	Cumulative To-date
Amount Invoiced	$160,021	$160,021
% Spent	<1%	<1%
Earned Value	N/A	N/A
% Complete	N/A	N/A
SPI	**N/A**	**N/A**
CPI	**N/A**	**N/A**

Scope

East Link extends light rail to East King County via I-90 from Downtown Seattle to Downtown Bellevue and the Overlake area of Redmond, with stations serving Rainier Avenue/I-90, Mercer Island, South Bellevue, Downtown Bellevue, Overlake Hospital, the Bel-Red corridor, Overlake Village and the Overlake Transit Center (OTC). Environmental review for a future expansion between the Overlake Transit Center and Downtown Redmond has also been completed. The project is in Final Design. Revenue Service to the Overlake Transit Center is forecast for 2023.

Map of East Link Extension.

Key Project Activities

Seattle to South Bellevue

- *Stations*: Rainier Avenue Station will not require a Master Use Permit but will require a Street Improvement Plan and a Project Construction Permit.
- *Track Attachment*: Completed a field-testing plan to verify overlay thickness on the floating bridge and completed a pontoon deck coring program.
- *Track Bridge:* Submitted load testing report.
- *Independent Review Team*: Advanced issues and planned a briefing for Federal Highway Administration (FHWA) next period.
- *Floating Bridge:* Sensitivity analysis performed on the initial results of first wind and wave analysis.
- *Tunnels*: Draft Letter of Concurrence on tunnel ventilation was sent to Seattle and Mercer Island Fire Departments for review; power sharing memo with WSDOT under review; resolution scheduled for last week of January.

Bellevue-Redmond

- Continued coordination with City of Bellevue on wetland mitigation, ROW acquisitions, Maintenance of Traffic (MOT) and various issues.
- Overlake Transit Center Agreement between Microsoft, Sound Transit and City of Redmond approved by City Council and Sound Transit Board.
- Continued coordination with WSDOT on draft RFP for the E360 Design -Build Project.
- Continued ongoing work with Redmond to coordinate the design and development of project requirements for proposed infiltration vault, Plaza Street at Overlake Village Station, and frontage improvements along Overlake Village Station.
- Advanced E335 GC/CM and Bellevue Construction Management and Services Procurements.

Graphic illustration of Overlake Transit Center Station platform.

Project Cost Summary

The following table summarizes the cost information for the East Link Extension. Lifetime Budget reflects the project budget adopted by Sound Transit Board, which includes budget through the Final Design Phase.

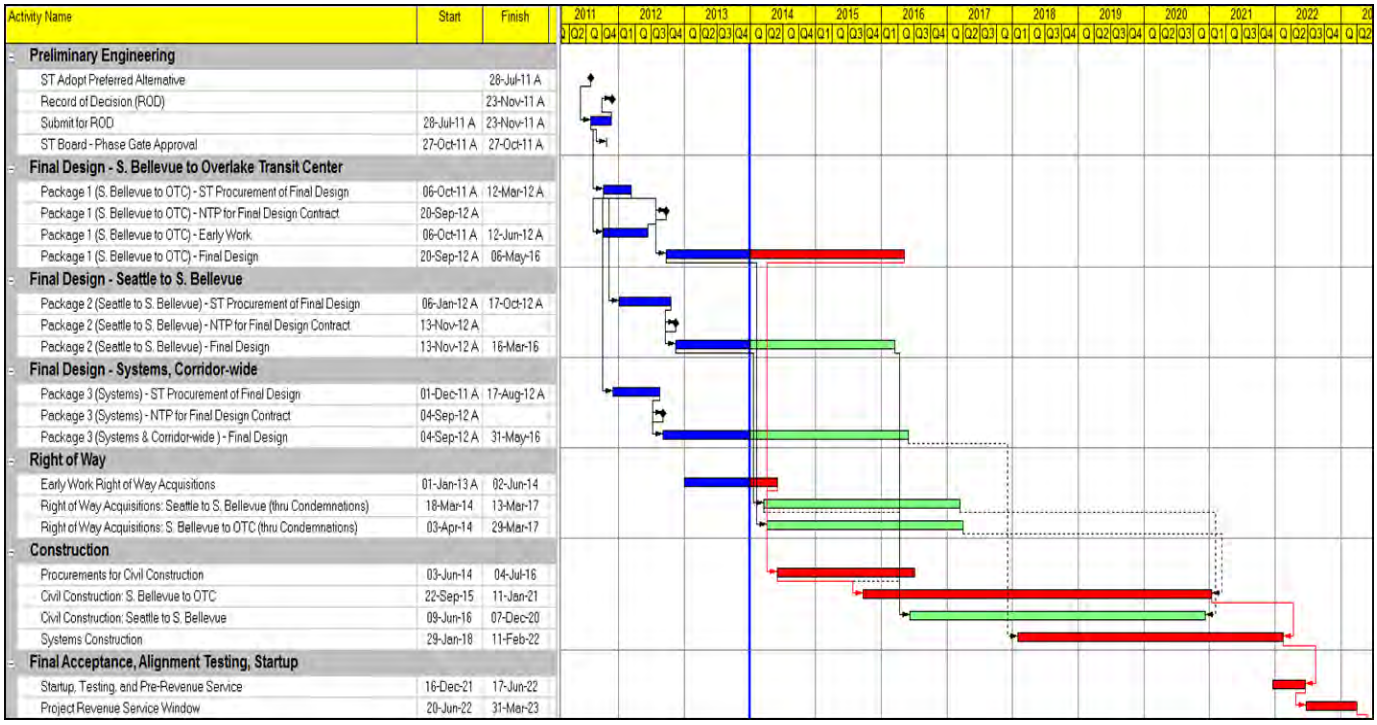
In December, the Sound Transit Board amended the Adopted 2013 Budget for East Link Extension to increase the Project Lifetime Budget by $4M for the Overlake Transit Center improvements being funded by an agreement with Microsoft.

	Lifetime Budget	Commitment to Date	Incurred to Date	Forecasts and Trends	Estimated Final Cost (EFC)	Budget vs. EFC
Administration	$67.4	$19.5	$22.0	$47.9	$67.4	$0.0
Preliminary Engineering	$61.1	$54.3	$53.5	$6.8	$61.1	$0.0
Final Design	$226.3	$145.3	$72.4	$81.0	$226.3	$0.0
3rd Party Agreements	$40.6	$4.9	$2.0	$35.7	$40.6	$0.0
Right-of-way	$365.4	$24.0	$18.9	$341.4	$365.4	$0.0
Total	**$760.8**	**$248.0**	**$168.8**	**$512.8**	**$760.8**	**$0.0**

Table figures in millions.

Project Schedule

The East Link Extension is in Final Design. Revenue Service to the Overlake Transit Center is forecast for 2023. Contract packaging and sequencing of construction continues to be reviewed and updated. Schedule has been revised to reflect alternative procurements for E335 GC/CM and E360 Design -Build delivery.


Activity Name
Start
Finish
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
Preliminary Engineering
ST Adopt Preferred Alternative 28-Jul-11 A
Record of Decision (ROD) 23-Nov-11 A
Submit for ROD 28-Jul-11 A 23-Nov-11 A
ST Board - Phase Gate Approval 27-Oct-11 A 27-Oct-11 A
Final Design - S. Bellevue to Overlake Transit Center
Package 1 (S. Bellevue to OTC) - ST Procurement of Final Design 06-Oct-11 A 12-Mar-12 A
Package 1 (S. Bellevue to OTC) - NTP for Final Design Contract 20-Sep-12 A
Package 1 (S. Bellevue to OTC) - Early Work 06-Oct-11 A 12-Jun-12 A
Package 1 (S. Bellevue to OTC) - Final Design 20-Sep-12 A 06-May-16
Final Design - Seattle to S. Bellevue
Package 2 (Seattle to S. Bellevue) - ST Procurement of Final Design 06-Jan-12 A 17-Oct-12 A
Package 2 (Seattle to S. Bellevue) - NTP for Final Design Contract 13-Nov-12 A
Package 2 (Seattle to S. Bellevue) - Final Design 13-Nov-12 A 16-Mar-16
Final Design - Systems, Corridor-wide
Package 3 (Systems) - ST Procurement of Final Design 01-Dec-11 A 17-Aug-12 A
Package 3 (Systems) - NTP for Final Design Contract 04-Sep-12 A
Package 3 (Systems & Corridor-wide) - Final Design 04-Sep-12 A 31-May-16
Right of Way
Early Work Right of Way Acquisitions 01-Jan-13 A 02-Jun-14
Right of Way Acquisitions: Seattle to S. Bellevue (thru Condemnations) 18-Mar-14 13-Mar-17
Right of Way Acquisitions: S. Bellevue to OTC (thru Condemnations) 03-Apr-14 29-Mar-17
Construction
Procurements for Civil Construction 03-Jun-14 04-Jul-16
Civil Construction: S. Bellevue to OTC 22-Sep-15 11-Jan-21
Civil Construction: Seattle to S. Bellevue 09-Jun-16 07-Dec-20
Systems Construction 29-Jan-18 11-Feb-22
Final Acceptance, Alignment Testing, Startup
Startup, Testing, and Pre-Revenue Service 16-Dec-21 17-Jun-22
Project Revenue Service Window 20-Jun-22 31-Mar-23

Right of Way

The East Link Extension involves the acquisition of a range of property interests including fee acquisitions for stations, guideway and staging areas and tunnel and guideway easements as well as permanent and temporary easements for construction. These acquisitions will result in owner and tenant residential and commercial relocations. The East Link Extension included the advance acquisition of approximately one mile of an existing railroad parcel ("Bellevue Mile") that the Sound Transit Board approved in June 2011. The right-of-way program status for this period is summarized in the following table.

East Link Extension Property Acquisition Status								
Line Section	**Total Parcels Certified**	**Offers Made**	**Signed Agree-ments**	**Admin. Settle-ments**	**Posses-sion and Use**	**Closings to date**	**Baseline Relocations Required**	**Reloca-tions Com-pleted**
S. Bellevue to OTC	157	41	8	0	0	7	55	0
Bellevue Mile	1	1	1	0	0	1	0	0
Total	**158**	**42**	**9**	**0**	**0**	**8**	**55**	**0**

S. Bellevue to OTC parcels

E320 S. Bellevue– Thirty-one parcels certified. Currently processing appraisals for the 18 single family homes. Awaiting 60% design and parcel maps for the remaining 16 parcels which may involve City of Bellevue parcels included in the MOU.

E330 Downtown Bellevue Tunnel - Awaiting 60% design and parcel maps.

E335 Downtown Bellevue to Spring District – Forty-two parcels certified; all offers made, 8 offers signed and 7 closed.

E340 Bel-Red – Sixty-six parcels certified. Continued the appraisal process on completed parcel maps.

E360 SR 520 to OTC – Twelve parcels certified. Began the appraisal process and WSDOT Airspace Lease process.

"Bellevue Mile" former BNSF railroad right-of-way parcel purchased from the Port of Seattle.

Quality Assurance Activities

Activities

- None to report.

Issues

- None to report.

Summary

Description	Dec 2013	Notes
No. of Audits Planned	3	E330 60%, E320 60%, E335 60% Design
No. of Audits Completed	1	E340 60% Design
Reports in Progress	3	E330 60%, E320 60%, E335 60% Design
No. of Audits Postponed	0	None

Environmental

- Working with local jurisdictions to prepare environmental permit application packages.
- Submitted wetland and stream mitigation designs to the City of Bellevue.
- Continued working with local, state and federal agencies to identify replacement land impacted by the project on Mercer Slough.

Sound Transit Board Actions

Board Action	Description	Date
M2013-110	*Execute the Agreement Between the City of Redmond, Sound Transit and with the Microsoft Corporation for the Overlake Transit Center within the East Link Extension.*	*Dec 19*
M2013-111	*Execute a contract amendment with H-J-H Final Design Partners for additional design services for the Overlake Transit Center in the amount of $1,300,000 for a new total authorized contract amount not to exceed $90,922,585.*	*Dec 19*
M2013-112	*Execute a task order agreement with the WSDOT for construction services for Stage 3A the Bellevue Way East-North Ramp, an element of East Link Extension, in the amount of $10,290,845, with a 10% contingency, for a total authorized contract amount not to exceed $11,319,930.*	*Dec 19*
R2013-31	*Amend the Adopted 2013 Budget for the East Link Extension to (a) increase the 2013 Annual Budget by $473,000 and (b) increase the Project lifetime Budget by $4,028,000 for Overlake Transit Center improvements being funded by an agreement with the Microsoft Corporation.*	*Dec 19*

Community Outreach

- Sent out E-newsletter to approximately 5,500 subscribers with information about the upcoming tabling sessions in the Overlake Area.
- Continued notifying the affected property owners of the City of Bellevue about upcoming survey work.
- Coordinated notification with cities of Bellevue, mercer island and Seattle for scheduled nighttime closures of 1-90 express lanes for ground penetrating radar and coring work.
- Continued coordination and planning with project team on the 60% design open houses for south and downtown Bellevue in February 2014.
- Continued incorporating online Overlake comments into an Overlake public involvement summary.
- Participated in various meetings with City of Bellevue businesses, communities and property owners. Also hosted information tables at Microsoft, Overlake Safeway and Starbucks, and Bellevue Mini City Hall at Crossroad Mall.

Construction

I-90

- I-90 Construction management Services Request for Qualification (RFQ) in development.

Bellevue-Redmond

- Advertised Bellevue Segment Construction Management Services RFQ (for preconstruction services).
- E335 GC/CM procurement in progress.
- E360 Design Build Project Management Services RFQ under development.

Link Light Rail
East Link Extension Final Design - S. Bellevue to OTC

Final Design Scope

Final Design for the East Link Extension includes three major design contracts: two for civil improvements and one for systems improvements. This civil contract is for the design services from South Bellevue to the Overlake Transit Center (OTC). The contract was awarded to H-J-H Final Design Partners, a joint venture of HNTB Corporation, Jacobs Engineering Group, Inc., and Hatch Mott MacDonald.

The scope of H-J-H services includes detailed designs of the corridor, preparation of comprehensive construction contract documents, permitting support, surveying, geotechnical investigations, right-of-way planning, third party coordination, systems coordination, cost estimating, scheduling, sustainability report, bid support and community outreach.

The design is being grouped into five Contract Packages: (1) E320 South Bellevue; (2) E330 Downtown Bellevue Tunnel; (3) E335 Downtown Bellevue to Spring District; (4) E340 Bel-Red, and (5) E360 SR-520 to OTC.

Map of South Bellevue to the Overlake Transit Center in Redmond.

Final Design Key Activities

E320 So. Bellevue

- Continued coordination efforts related to interface with E130, E335 and WSDOT's E-N Ramp.
- Received 60% submittal and distributed for ST & 3rd Party review.
- Continued working through the design approval process with WSDOT and FHWA.
- Continued coordinating with several City of Bellevue projects.
- Began 90% design of aerial guideway, long span bridge, etc.

E330 Downtown Bellevue/E335 Downtown Bellevue to Spring District

- Continued coordination efforts related to interface with E320 and E335.
- Reviewed 60% submittal and consolidating comments from ST and 3rd Party.
- Initiated Geotechnical Baseline Report (GBR).

E335 Downtown Bellevue to Spring District

- Received 60% submittal and distributed for ST & 3rd Party review.
- Continued working through staging/sequencing issues associated with the north portal cut-and-cover construction activities.
- Continued coordination with property owners.
- Executed a concept design agreement for a potential Spring District public private partnership.
- Continued coordination meetings with City of Bellevue regarding interface issues with their 120th NE and 124th NE CIP projects.

E340 Bel-Red

- Continued coordination with property owners.
- Continued working with City of Bellevue to develop the design of the wetland mitigation and stream enhancement site.
- Continued advancing 90% design plans; submittals due early April 2014.
- Continued coordination meetings with City of Bellevue regarding interface issues with their CIP projects on NE 16th between 130th NE and 132nd NE.
- Submitted Design and Mitigation permit application to City of Bellevue.

E360 SR 520 to OTC

- Sound Transit Board approved the agreement with Microsoft for sharing of the cost to relocate the existing SONNET line as part of the OTC Improvement Agreement.
- Continued discussions with private/franchise utilities such as PSE, Frontier, Century Link and Comcast regarding conflicts and relocations.
- Continued WSDOT project interface coordination (SR 520), and working through the design approval process with WSDOT to obtain provisional project development approval. The design build team will obtain final project development approval.
- Continued coordination with the City of Redmond on DB project requirements review and agreements.

Final Design Schedule

The table below shows the design submittal dates for each of the contract.

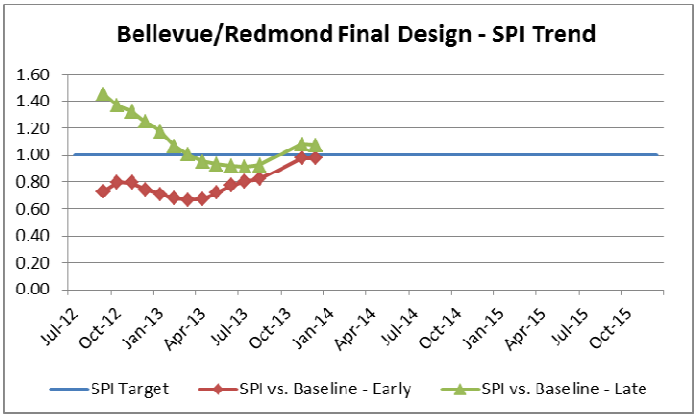
Contract Packages	60% Submittal		90% Submittal		100% Submittal		IFB Submittal	
	Baseline*	Forecast/ Actual	Baseline*	Forecast/ Actual	Baseline*	Forecast/ Actual	Baseline*	Forecast/ Actual
E320 So. Bellevue	12/06/2013	12/06/2013	6/27/2014	6/27/2014	11/26/2014	11/26/2014	3/06/2015	3/06/2015
E330 Downtown Bellevue Tunnel	11/18/2013	11/18/2013	6/02/2014	6/02/2014	10/20/2014	10/20/2014	1/26/2015	1/26/2015
E335 Downtown Bellevue to Spring District	12/20/2013	12/20/2013	9/19/2014	9/19/2014	2/06/2015	2/06/2015	5/15/2015	5/15/2015
E340 Bel-Red	7/15/2013	7/15/2013	4/04/2014	4/04/2014	8/22/2014	8/22/2014	11/26/2014	11/26/2014

	Draft RFP Submittal		Final RFP Submittal	
	Baseline*	Forecast/ Actual	Baseline*	Forecast/ Actual
E360 SR-520 to Overlake Transit Center	3/14/2014	3/14/2014	7/15/2014	7/15/2014

**Baseline schedule dates revised to reflect final contract packaging and construction delivery methods.*

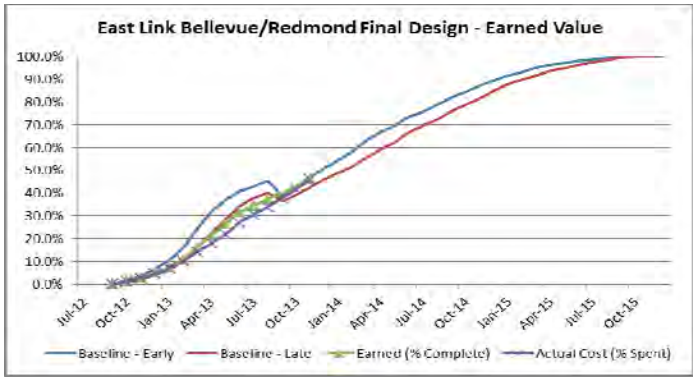
Final Design Schedule Performance

The Schedule Performance Index (SPI) reported this period is 0.97 based on Early Schedule Baseline, and 1.07 based the Late Schedule Baseline. SPI indices have remained relatively the same as the last period. The 60% Design submittals of E320 and E335 in December 2013 were completed per schedule. E335 design progress is now put on-hold until the GC/CM contractor is onboard, which is anticipated in Spring 2014. However, the current design schedule is currently assumed to be in mid-February 2014. Thus, 90% submittal milestone for E335 may slip, but no impact to the overall schedule is anticipated.

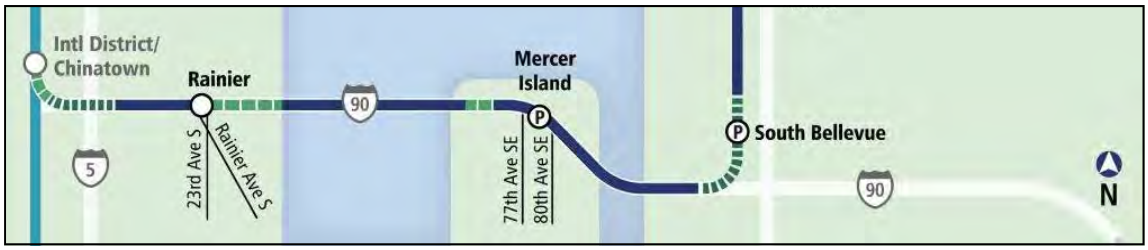


Final Design Cost Performance

Labor cost (for Phase 2 Final Design) to-date is $35.9 million, or 49.3% of the budget. Progress earned through the same period is approximately 49.5% or $36.1M of earned value. This yields a cumulative Cost Performance Index (CPI) of approximately 1.0, which indicates on-budget cost efficiency of the current contract budget, including executed change orders. However, there are upward cost pressure in several areas due to refinements to the design and potential extension of the contract time. Estimate At Completion (EAC) based on EV data, which does not account for potential change orders, is approximately equal to current budget. However, Estimate Final Cost (EFC), which also takes into account potential change orders and risks, is now approximately $3M (or 4%) over current budget. Unallocated Contingency many have to be utilized to augment this impact. Additional review is underway to ensure project completion in a cost-effective manner.



Performance	Previous Period	Current Period	Cumulative To Date
Labor Amt. Invoiced	$33,512,505	$2,441,696	$35,954,201
% Spent	45.9%	3.3%	49.3%
Earned Value	$33,530,041	$2,600,673	$36,130,714
% Complete	46.0%	3.6%	49.5%
CPI	1.0	1.1	1.0



Map of International District Station to South Bellevue.

Final Design Scope

Final Design for the East Link Extension is delivered by three major design contracts: two for civil improvements and one for systems improvements. This Contract is for the civil and architectural design services from International District Station (IDS) to South Bellevue. The contract was awarded to Parsons Brinkerhoff, Inc. (PB).

The scope of the services includes detailed design of the corridor, preparation of comprehensive construction contract documents, permitting support, surveying, geotechnical investigation, right-of-way planning, third party coordination, systems coordination, cost estimating, scheduling, sustainability report, bid support and community outreach support.

The project in this segment has been grouped into three Contract Packages: (1) E110 Rail Connection and Upgrades at IDS, (2) E120 Seismic Retrofits of WSDOT Structures, (3) E130 I-90 Civil/Architectural, which also includes the two at-grade stations, and Electrical/Mechanical Upgrades to the Tunnels.

Final Design Key Activities

- Reviewed revisions to the Baseline Design schedule; Accepted the Earned Value Management Plan; Reviewing the Project Management Plan.
- *Rainier Avenue Station:* The 30% design package was presented to the Seattle Light Rail Review Panel.
- *Mercer Island Station:* Design plans advancing toward 60%.
- *Track Attachment:* The recommended concrete plinth option continues to be refined. A Testing Program for the plinths is being developed at UW.
- *Floating Bridge:* Basis of Evaluation has been finalized; track attachment and OCS pole concept relevant to the evaluation have been advanced. Wind and Wave Analysis was completed for the first run and a global analysis was performed. A sensitivity study has been performed for the various load cases. The evaluation for options for fire hydrants on the floating bridge has been completed. A report has been submitted to the Fire Departments and is under review.
- *Fire/Life/Safety Tunnels:* A draft Letter of Concurrence on tunnel ventilation is being reviewed by the Seattle and Mercer Island Fire Departments. The power sharing memo has been presented to WSDOT for review.
- *Fixed Spans*: Level 1 Analyses have been advanced for the D2, Rainier Ave Bridge and East Channel Bridge. Level 2 Analyses for the East and West Approaches are proposed to be finished in February 2014.
- A Baseline Budget for Construction to be submitted for acceptance next period.
- Ground penetrating radar and Concrete Core sampling has been performed on the floating bridge in support of plinth design and weight and balance assessments.

Graphic illustration of Rainier Avenue Station platform.

Final Design Schedule

Contract Packages	60% Submittal		90% Submittal		100% Submittal		IFB Submittal	
	Baseline	Forecast/ Actual	Baseline	Forecast/ Actual	Baseline	Forecast/ Actual	Baseline	Forecast/ Actual
E110 - Rail connection & IDS upgrades	12/6/2013	04/04/2014	10/9/2014	10/31/2014	2/13/2015	2/27/2015	4/28/2015	9/8/2015
E120 - Seismic Retrofits	11/1/2013	02/07/2014	1/15/2015	1/14/2015	3/20/2015	5/29/2015	4/28/2015	11/25/2015
E130 – I-90 Civil/Arch./ Elect. & Mech. Upgrades	4/4/2014	07/11/2014	12/17/2014	5/14/2015	3/25/2015	12/3/2015	4/29/2015	3/16/2016

Final Design Schedule Performance

Final Design Schedule Performance is not available this month as the Consultant is revising their reporting procedures.

Final Design Cost Performance

Labor cost (for Phase 2 Final Design) through November 2013 is $12.8M, or 44.7% of the budget. Cost performance based in Earned Value information is not available for this month as the Consultant is revising their reporting procedures.

This design contract is experiencing an upward cost pressure due to changes in the design of the D2 Roadway, Rainier Beach Station, Mt Baker Tunnel, and additional analyses and tests required to be performed by WSDOT. Potential change orders and risks are trending approximately $3M over the current contract amount. Additional review is underway to ensure project completion in a cost-effective manner.

Link Light Rail
East Link Extension Final Design - Systems

Final Design Scope

Final Design for the East Link Extension is delivered by three major design contracts: two for civil improvements and one for systems improvements. This contract is for the systems design services for the entire alignment. The contract was awarded to LTK Engineering Services, Inc. The scope of the services include detailed design of the corridor, preparations of comprehensive construction contract documents, 3rd party coordination, cost estimating, scheduling, and bid support.

Final Design Key Activities

- Performed QC review of the E320 Bellevue Tunnel 60% Civil Design submittal.
- Completed the Interdisciplinary Review (IDR) in preparation for the E335 Downtown Bellevue 60% Civil Design submittal.
- Provided proposal for Overhead Catenary System (OCS) at the BNSF.
- Submitted the Basis of Design Report for the Stray Current Corrosion Control System on the I90 Floating Bridge
- Performed simulation of 32 car storage yard as part of the OMSF Environmental analysis.
- Provided plinth prototype electrical resistance test plan for the I-90 floating bridge plinth system.
- Submitted design criteria deviation request for approval to eliminate the switch heaters in the area of the International District Station.
- Finalizing Design to budget construction cost value with Sound Transit cost estimators.

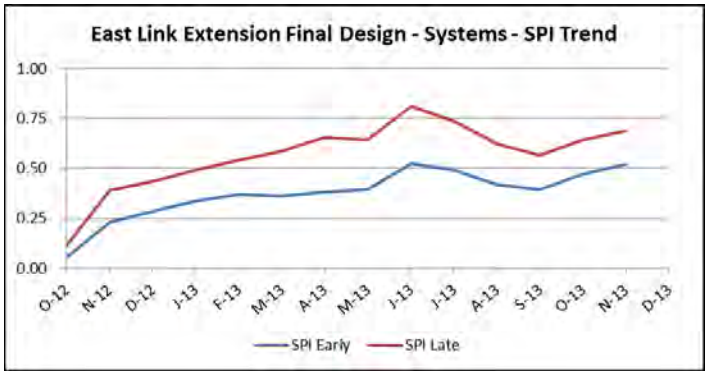
Final Design Schedule

Due to changes in the Civil design deliverable schedules and alignment refinements in the I-90 and Bellevue corridor the forecasted E750 submittal dates are moving accordingly.

	60% Submittal		90% Submittal		100% Submittal		IFB Submittal	
	Baseline	Forecast/ Actual	Baseline	Forecast/ Actual	Baseline	Forecast/ Actual	Baseline	Forecast/ Actual
E750– LRT Systems	3/11/2014	9/25/2014	12/8/2014	9/8/2015	4/15/2015	2/11/2016	5/27/2015	5/6/2016

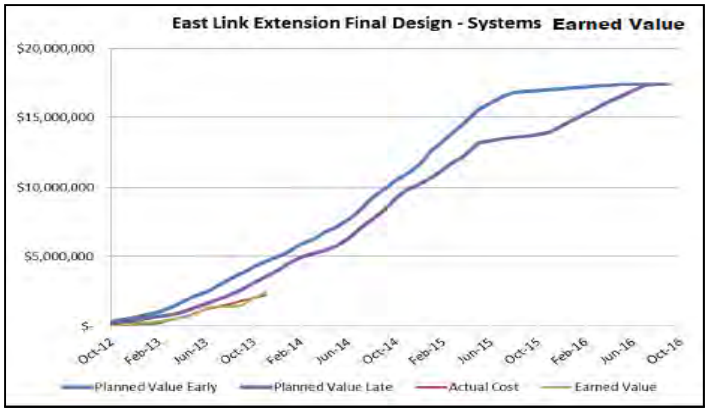
Final Design Schedule Performance

The overall schedule performance of 0.65 is based on a Planned Value of $3.75M. Because much of the Systems Final Design work is dependent on the progress of the Civil Final Design, the delay in the Civil Design of the Seattle-to-So. Bellevue segment is having an impact on the progress of systems design. This attributed to the low SPI of 0.65.



Final Design Cost Performance

Through the end of November, the project is approximately 13.73% complete resulting in an Earned Value of $2.42M and a CPI of 1.07. This contract is forecast to complete approximately equal to current contract amount.



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Link Light Rail
S. 200th Link Extension

Scope

Limits: South 200th Link Extension consists of 1.6-mile extension of light rail from the SeaTac/Airport Station to South 200th Street.

Alignment: The extension continues in an aerial configuration heading south of the existing SeaTac/Airport Station, east of Air Cargo Road across South 188th Street, and continuing south along the east side of 28th Avenue South to the elevated Angle Lake Station located at South 200th Street. A passenger pickup/drop-off area, bus transfer, plaza, and a minimum 700-space structured park and ride facility will be located at Angle Lake Station. Up to 400 additional spaces may be developed for interim parking while Angle Lake Station is the interim southern terminus of the Link system. Guideway/Station and Parking Garage/Plaza are being delivered under a Design Build contract.

Station: Angle Lake Station is located at South 200th Street.

Systems: Signals, track electrification, and SCADA communications

Budget: $383.2 Million

Service: September 2016

Phase: Final Design and Construction

Map of S. 200th Link Extension.

Key Project Activities

- *S440 Design Build Guideway and Station*: Station 100% design planned submittal in mid-January 2014; Ongoing review of IFC (revised) Civil and 100% Systems design packages. At S440 site, continued assembling rebar for shafts, columns, straddle bents, and hammerheads and continued gantry assembly for erecting precast segments.
- *S445 DB Parking Garage:* Reviewing concept validation submittals of Harbor Pacific and Graham, the DB Contractor; drafting commitments proposal letter which shall be incorporated into the contract. Board action for contract is scheduled for February 2014.
- *S446 Military Road/South 200th Intersection and S447 Roadway Improvements:* In S446, Final Design consultant continues roadwork design and technical memos and geotechnical report preparation is underway. In S447, 60% design package under review. City of SeaTac was awarded approximately $7M grant from the Transportation Improvement Board. The S447 design will be finalized on the basis of the 'alternative mitigation" concept.

Closely Monitored Issues

- In S440, DB Contractor continues to work on casting yard quality issues and implemented changes to the casting machines as well as additional reinforcement to their supervision and quality control personnel. Sound Transit is closely monitoring production to be sure that the expected level of quality is being achieved.

Project Cost Summary

The S. 200th Link Extension project cost is summarized in two cost tables. The first table in in accordance with Sound Transit's Work Breakdown Structure (WBS), and in the second table, cost is summarize in accordance to the FTA's Standard Cost Categories (SCC) format. (Both tables' figures in millions).

WBS Phase Elements	Baseline Budget	Current Adopted Budget	Commitment to Date*	Incurred to Date	Est. Final Cost (EFC)	Adopted Budget vs. EFC
ADMINISTRATION	$16.1	$15.9	$6.1	$6.1	$15.9	$0.0
PRELIMINARY ENGINEERING	$5.9	$5.7	$5.7	$5.7	$5.7	$0.0
FINAL DESIGN	$20.0	$6.8	$8.4	$6.0	$8.9	-$2.1
CONSTRUCTION SERVICES	$15.1	$17.3	$15.0	$2.9	$17.3	$0.0
3rd PARTY AGREEMENTS	$6.9	$7.1	$5.6	$1.8	$7.1	$0.0
CONSTRUCTION	$275.7	$286.9	$180.9	$60.2	$284.8	$2.1
VEHICLES	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
ROW	$43.5	$43.5	$40.5	$34.4	$43.5	$0.0
Capital Total	**$383.2**	**$383.2**	**$262.3**	**$118.1**	**$383.2**	**$0.0**
FINANCE COST	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Project Total	**$383.2**	**$383.2**	**$262.3**	**$118.1**	**$383.2**	**$0.0**

The December 2013 projected Estimated Final Cost (EFC) continues to be consistent within the baseline amount of $383M. The incurred cost for this period increased approximately by $6M, of this amount most expenditures are attributable to construction activities (56%) for the design build guideway & station contract (S440), followed by ROW (26%).

The construction EFC under the SCC format overall is consistent with the baseline budget. This period the overall increase of expenditures is $6M, which is dispersed primarily among a few categories: Professional Services-SCC 80 at 14% for final design and design/construction management services, ROW-SCC 60 at 26%, and 60% for construction activities: Guideway & Track Elements/Sitework-SCC 10-50.

Project Elements by SCC	Baseline Budget	Current Adopted Budget	Commitment to Date*	Incurred to Date	Estimated Final Cost (EFC)	Adopted Budget vs. EFC
10 Guideway & Track Elements	$144.8	$137.4	$98.4	$26.8	$124.4	$13.0
20 Stations	$46.4	$48.9	$12.4	$3.3	$45.9	$3.0
30 Support Facilities: Yards, Shops	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
40 Sitework & Special Conditions	$34.6	$49.6	$36.5	$11.6	$58.0	-$8.4
50 Systems	$30.8	$19.8	$18.5	$5.0	$25.3	-$5.5
Construction Subtotal (SCC 10-50)	**$256.6**	**$255.7**	**$165.8**	**$46.7**	**$253.6**	**$2.1**
60 Row, Land, Existing Improvements	$43.5	$43.5	$40.5	$34.4	$43.5	$0.0
70 Vehicles	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
80 Professional Services	$64.1	$67.3	$55.9	$37.0	$70.3	-$2.9
90 Unallocated Contingency	$19.0	$16.7	$0.0	$0.0	$15.9	$0.8
Project Total (SCC 10-90)	**$383.2**	**$383.2**	**$262.3**	**$118.1**	**$383.2**	**$0.8**
100 Finance Cost	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Project Total (SCC 10-90)	**$383.2**	**$383.2**	**$262.3**	**$118.1**	**$383.2**	**$0.0**

Cost Contingency Management

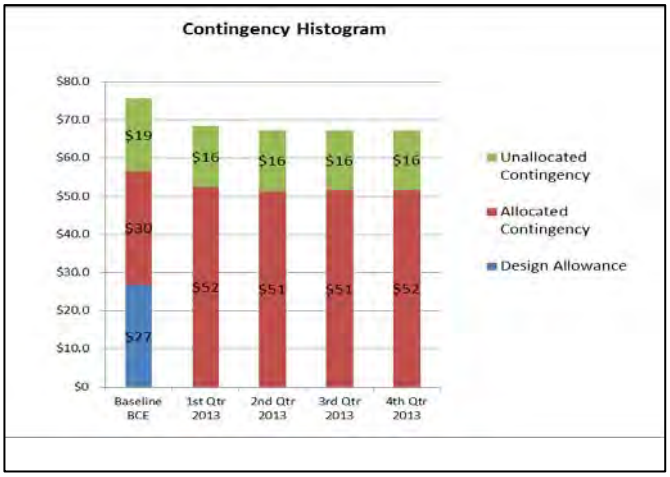
The overall project contingency balance as of December is $67M. There is no change since last reporting period. Contingency levels at this time continue to remain healthy for the amount of work remaining.

Design Allowance (DA): After baselining the project the design allowance of $26.7M was added to the base estimate for the design build work package. There will be no future reporting of DA.

Allocated Contingency (AC): This period the AC continues to shows a current balance of $51.4M, unchanged from last period.

Unallocated Contingency (UAC): This period continues to reflect an approximate UAC balance of $16M.

Contingency Status	BCE		Current Status	
	Amount	%of Total	Remaining Amount	% Remaining Work
Design Allowance	$26.7	7%	$0	0%
Allocated Contingency	$29.8	8%	$51.4	24%
Unallocated Contingency	$19.0	5%	$15.8	7%
Total:	**$75.6**	**20%**	**$67.2**	**31%**



Risk Management

The South 200th Link Extension Risk Management Plan (RMP) established a risk management and oversight process for assessing and monitoring risks to determine how risks have been reduced or mitigated. RMP captures scope growth, schedule delay, and cost growth risks that could arise during any phase of the project and potentially affect parts of the project scope. On a quarterly basis, the South 200th Link Extension team reviews and updates risk to reflect conditions.

The top five major risk items identified at the end of 3rd QTR 2013 risk review.

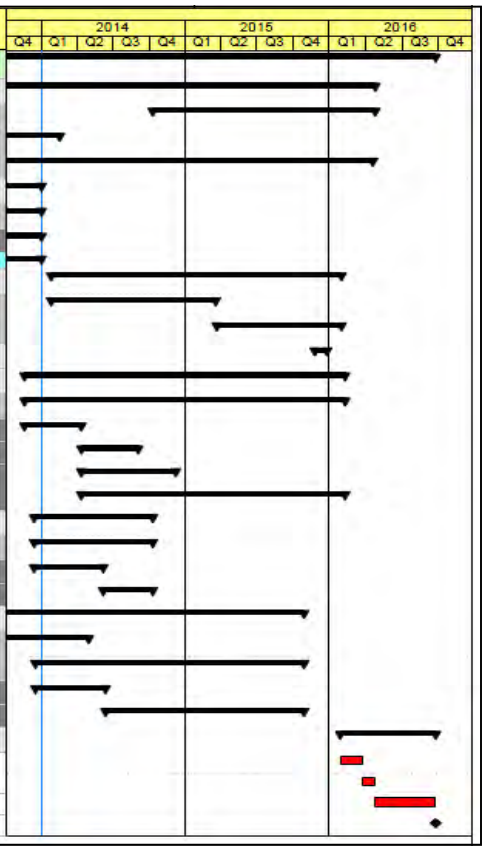
- **Construction:** Impacts due to segment quality issues (S440).
- **Construction:** Column issues related to workmanship and concrete mix (S440).
- **Construction**: Delays due to City of SeaTac electrical inspections.
- **Environmental:** Potential contaminated soil around station site (S445).
- **Internal:** Third-party reviewers are slow for design and construction progress (S440).

Project Schedule

The project is currently in Final Design under the S440 Design-Build Guideway & Station contract. Drilled shaft operation and column erection are now well underway. The gantry truss erection is expected 1st QTR 2014. The casting yard has not met full production yet but is expected to do so in 1st QTR 2014. S445 DB Parking Garage contract procurement is well underway with NTP expected in April of 2014.

The S. 200th Link Extension anticipated service launch is September 2016. (See Project Schedule Summary below).

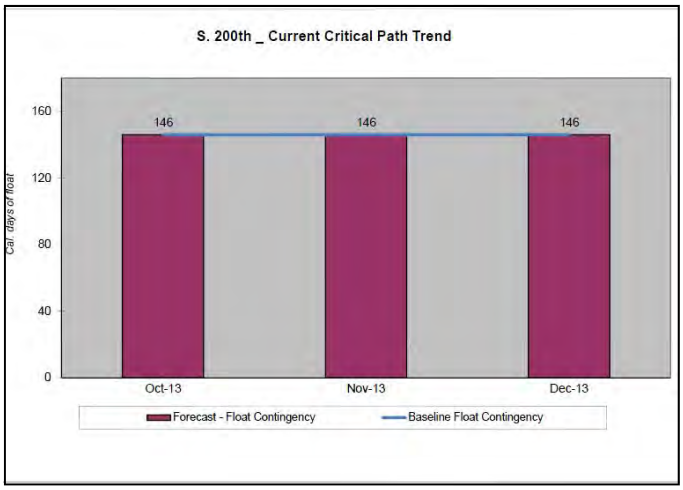
Activity Name	Start	Finish
S 200th Link Extension	31-Oct-12 A	24-Sep-16
S440 South 200th Link Extension - Update	31-Oct-12 A	25-Apr-16
Milestones	08-Oct-14	25-Apr-16
Design	31-Oct-12 A	16-Feb-14
Construction	01-May-13 A	19-Apr-16
SL 441 - S. 200th Utilities Preliminary	26-Sep-13 A	01-Jan-14
S441 Series - Utility Work (by Third Parties)	26-Sep-13 A	01-Jan-14
S441.1 - Utility Relocation PSE	26-Sep-13 A	01-Jan-14
PSE Fiber/Radio	26-Sep-13 A	01-Jan-14
SL 442 - Fare Collection Equipment (TVM/ORCA)	24-Jan-14	30-Jan-16
Final Design	24-Jan-14	19-Mar-15
Construction	20-Mar-15	30-Jan-16
SL 443 - SCADA (U830)	25-Nov-15	24-Dec-15
SL 445 - S. 200th Parking Garage - Preliminary	19-Nov-13 A	09-Feb-16
S445 - Parking Garage	19-Nov-13 A	09-Feb-16
S445 - Parking Garage Procurement - D/B	19-Nov-13 A	10-Apr-14
S445 - Right of Way	11-Apr-14	03-Sep-14
S445 - Parking Garage Final Design - D/B	11-Apr-14	08-Dec-14
S445 - Parking Garage Construction	11-Apr-14	09-Feb-16
SL 446 - S. 200th WSDOT Roadway - Preliminary	12-Dec-13 A	10-Oct-14
S446 - WSDOT Military Rd/ I-5 Improvements	12-Dec-13 A	10-Oct-14
Final Design	12-Dec-13 A	06-Jun-14
Construction	06-Jun-14	10-Oct-14
SL 447 - S. 200th Station Area Roadway	10-Aug-13 A	26-Oct-15
Right of Way	10-Aug-13 A	29-Apr-14
Construction	18-Dec-13 A	26-Oct-15
Bid/Solicitation	18-Dec-13 A	13-Jun-14
Construction	13-Jun-14	26-Oct-15
S. 200th Link Extension Construction - Systemwide	27-Jan-16	24-Sep-16
Systems Testing/Integration	27-Jan-16	26-Mar-16
Pre-Revenue Testing and Start-Up incl SCADA	27-Mar-16	25-Apr-16
Project Float	26-Apr-16	24-Sep-16
Revenue Service Date (Baseline 09/24/2016)		24-Sep-16*



Critical Path Analysis

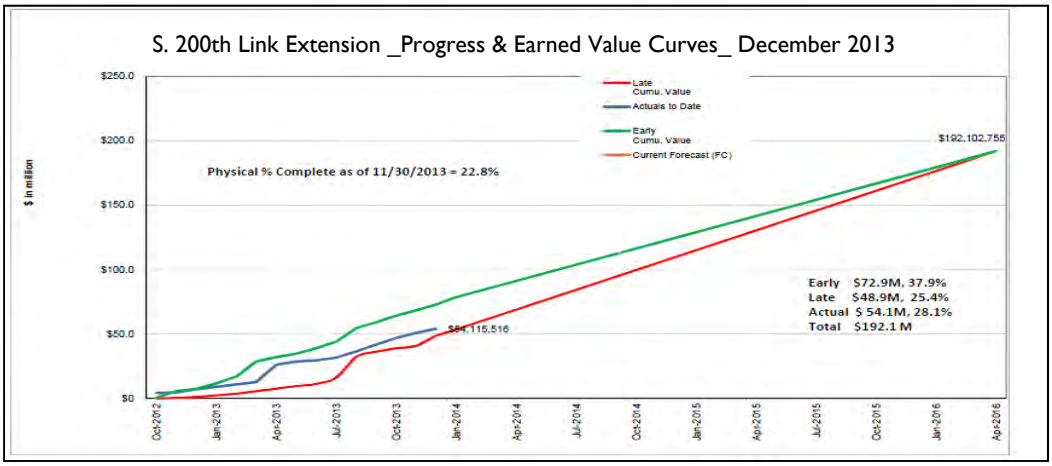
The critical path of S. 200th Link Extension runs through S440 which commences with the procurement of the guideway erection truss, guideway erection, alignment, post tension and drainage, plinth and track installation, signal and systems and concludes with system wide testing and integration.

Float contingency is at 146 days.



Cost Progress Analysis

Overall South 200th physical % complete is at 22.8%. Graphic below is a representation of the progress of major construction contracts cost compared to the early/late projections. S440 will be the main driver for performance levels for S. 200th.



Construction Safety

Safety Statistics for the reporting period and year-to-date are summarized in the table below.

Data/Measure	December 2013	Year to Date	Project to Date
Recordable Injury/Illness Cases	0	1	1
Days Away From Work Cases	0	0	0
Total Days Away From Work	0	0	0
Restricted or Modified Work Cases	0	1	1
Total Days Restricted or Modified Work	0	20	20
First Aid Cases	0	4	4
Reported Near Mishaps	0	7	7
Average Number of Employees on Worksite	120	-	-
Total # of Hours (GC & Subs)	24,000	141,923	141,923
OSHA Incident Rates	**Monthly Average**	**Year to Date**	**Project to Date**
Recordable Injury Rate	0.00	1.41	1.41
DART Rate	0.00	1.41	1.41
Recordable National Average	**3.70**	**3.70**	**3.70**
DART National Average	**2.00**	**2.00**	**2.00**
Recordable WA State Average	**6.50**	**6.50**	**6.50**
DART WA State Average	**3.40**	**3.40**	**3.40**

Right-of-Way

The S. 200th Link Extension involves the acquisition of a range of property interests, including owner and tenant residential and commercial relocations. Property interests include compensable (e.g., easements, fee acquisitions) and non-compensable rights (e.g., rights of entry). The S. 200th Link Extension project involved the advance acquisition of three parcels that the Board approved in 2006 and 2007; the final decree was entered in 2009. These parcels were acquired through the Regional Fund Contingency. Sound Transit's protective acquisition of these properties prevented development of parcels needed for the project. The acquisition of property rights from additional parcels along the route was authorized by the Board in July 2011 and February 2012. The right-of-way program is summarized in the following page.

Right-of-Way, continued

Line Section	Total Parcels Certified	Offers Made	Signed Agreements	Admin. Settlements	Possession and Use	Closings to date	Baseline Relocations Required	Relocations Completed
S440	61	56	0	0	11	44	7	2
S447	21	0	0	0	0			
Total	**82**	**56**	**0**	**0**	**11**	**44**	**7**	**2**

On November 21, 2013 the Sound Transit Board authorized the acquisition of 21 parcels.

The Port of Seattle commissioners approved the Memorandum of Agreement (MOA) for use of Port property. The Sound Transit Board approved the MOA on June 28, 2012.

Offers have been made on 56 parcels. A total of 33 parcels have now been submitted for condemnation and 32 parcels have been filed in court. The condemnation on the remaining parcel has been dismissed. ST has been granted Possession and Use though the court for 30 parcels. Administrative Settlement was signed for six parcels in November. A decree was filed for one parcel.

Quality Assurance Activities

Activities

- None to report.

Issues

- Significant number of non-conformances with pre-cast segment manufacturing. Failure rate exceeds 90%.
- S447 60% Audit Findings regarding absence of Phase III Management Plan submittal prior to commencement of Final Design and discrepancies on QC checking.

Description	Dec 2013	Notes
No. of Audits Planned	0	None
No. of Audits Completed	2	S447 Station Roadway & Surface Parking Desi. Submittal, S440 Systems 100%
Reports in Progress	2	S447 Station Roadway & Surface Parking Des. Submittal, S440 Systems 100%
No. of Audits Postponed	0	None

Community Outreach

- Distributed notifications for three separate crane moves that will impact Port of Seattle roadways at SeaTac Airport.

Environmental

- None to report at this time.

Sound Transit Board Actions

Board Actions	Description	Date
	None to report this period.	

Contract Packages

The South 200th Link Extension consists of two major contract packages, both by Design Build methods, and two minor contracts. Below is a brief scope description of each package.

- **S440 Design Build Guideway and Station** - This contract involves the design and construction of an elevated guideway (1.6 miles) and station, site work, civil /roadwork, and systems. See S440 contract page for detailed information on the following page.
- **S445 Design Build – Parking Garage and Plaza** – This contract involves the design and construction of a parking garage (700 space structure), passenger pick-up and drop-off lot, plaza area, retail space and surface parking.
- **S446 Military Road & South 200th Street Improvements** – This contract package consists of construction of roadway and traffic signals work.
- **S447 Station Area Roadways & Surface Parking**- This contract package consists of station area roadway, surface parking, and non-motorized Improvements (sidewalks, traffic signals, pedestrian/bicycle connection, roadwork).

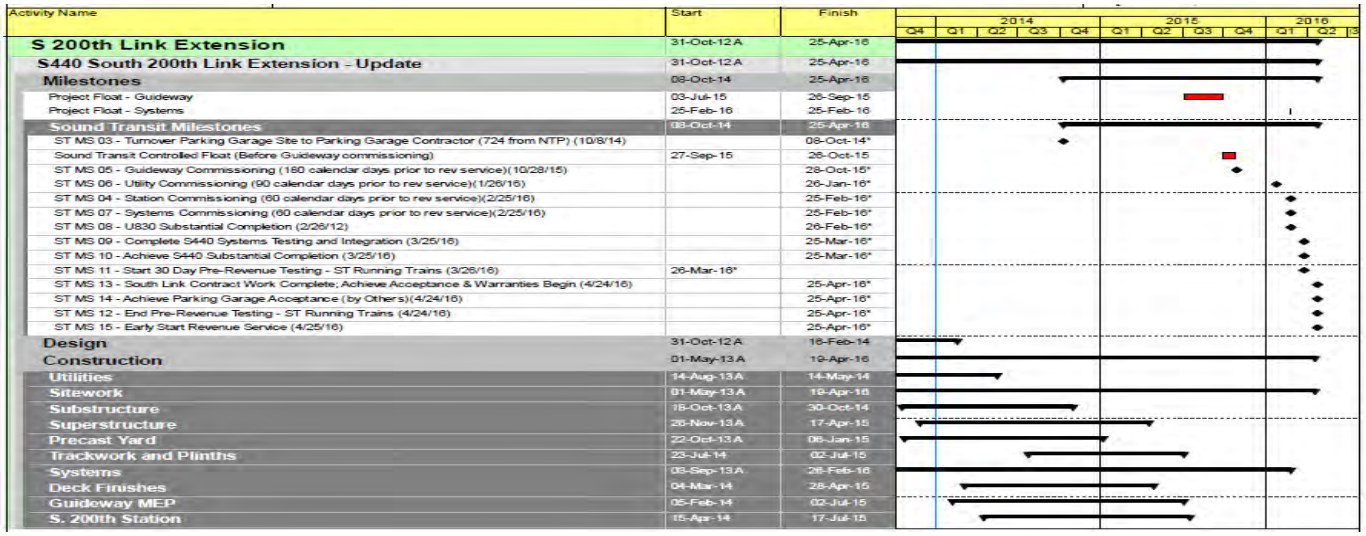
S440 Contract—Design -Build (Guideway and Station)

Current Progress

The DB Contractor is nearing completion of design, expected early 2014. The station design has been held up for further review by the DB Contractor. Station and Systems Design are driving the completion date. Design work, coordination meetings and submittal reviews are ongoing. Drilled shaft construction is well under way with approx. 61 (76%) shafts and 28 (39%) columns completed. Casting yard set up continues with approx. 121 (10%) segments have been poured to date. Sitework and utility work continues. Overall the progress of this contract represents 32% physical completion; the Design element is 93% complete and Construction is 28%.

Critical Path

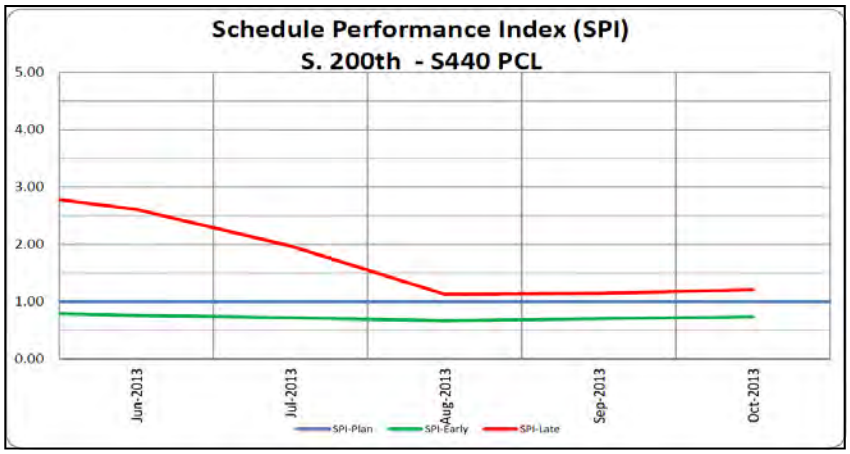
Two parallel critical paths are being tracked in the Contractor's schedule. Critical path #1 is tracking through the erection and testing of the gantry truss through the erection of segments. Critical Path #2 is tracking through casting yard where it joins eventually ties to the erection of segments. The Critical path continues through guideway drainage and railing, plinth and track installation, signal and systems and concludes with system wide testing and integration. Design submittals and production rates will be monitored closely.



Activity Name	Start	Finish
S 200th Link Extension	31-Oct-12 A	25-Apr-16
S440 South 200th Link Extension - Update	31-Oct-12 A	25-Apr-16
Milestones	08-Oct-14	25-Apr-16
Project Float - Guideway	03-Jul-15	26-Sep-15
Project Float - Systems	25-Feb-16	25-Feb-16
Sound Transit Milestones	08-Oct-14	25-Apr-16
ST MS 03 - Turnover Parking Garage Site to Parking Garage Contractor (724 from NTP) (10/8/14)		08-Oct-14*
Sound Transit Controlled Float (Before Guideway commissioning)	27-Sep-15	28-Oct-15
ST MS 05 - Guideway Commissioning (180 calendar days prior to rev service)(10/28/15)		28-Oct-15*
ST MS 06 - Utility Commissioning (90 calendar days prior to rev service)(1/26/16)		26-Jan-16*
ST MS 04 - Station Commissioning (60 calendar days prior to rev service)(2/25/16)		25-Feb-16*
ST MS 07 - Systems Commissioning (60 calendar days prior to rev service)(2/25/16)		25-Feb-16*
ST MS 08 - UB30 Substantial Completion (2/26/12)		26-Feb-16*
ST MS 09 - Complete S440 Systems Testing and Integration (3/25/16)		25-Mar-16*
ST MS 10 - Achieve S440 Substantial Completion (3/25/16)		25-Mar-16*
ST MS 11 - Start 30 Day Pre-Revenue Testing - ST Running Trains (3/26/16)	26-Mar-16*	
ST MS 13 - South Link Contract Work Complete; Achieve Acceptance & Warranties Begin (4/24/16)		25-Apr-16*
ST MS 14 - Achieve Parking Garage Acceptance (by Others)(4/24/16)		25-Apr-16*
ST MS 12 - End Pre-Revenue Testing - ST Running Trains (4/24/16)		25-Apr-16*
ST MS 15 - Early Start Revenue Service (4/25/16)		25-Apr-16*
Design	31-Oct-12 A	18-Feb-14
Construction	01-May-13 A	19-Apr-16
Utilities	14-Aug-13 A	14-May-14
Sitework	01-May-13 A	19-Apr-16
Substructure	18-Oct-13 A	30-Oct-14
Superstructure	26-Nov-13 A	17-Apr-15
Precast Yard	22-Oct-13 A	08-Jan-15
Trackwork and Plinths	23-Jul-14	02-Jul-15
Systems	03-Sep-13 A	28-Feb-16
Deck Finishes	04-Mar-14	28-Apr-15
Guideway MEP	05-Feb-14	02-Jul-15
S. 200th Station	15-Apr-14	17-Jul-15

Schedule Performance Index

The SPI is currently reporting below 1.00 at 0.74, based on early forecasts but has risen slightly from last period. Continued delays associated with the casting yard have been the main cause for the Contractor's inability to reach early forecast expectations. Drilled shaft installation and column erection are well ahead of segment erection at this time.



Key Activities

Current Period

- Design work, coordination meetings and submittal reviews continue.
- Continue rebar assemblies for drilled shafts, columns, spread footings, straddle bents, and hammerheads.
- Completed 5 drilled shaft this month with 61 total shafts completed to date. Only five more shafts remain; crane pad setup underway at northend of alignment.
- Completed column pours at B16-B19.
- Continued spread footing activities.
- Continued hammerhead activities e.g., formwork, rebar, concrete pour, etc.
- Continued monitoring mass concrete temperatures.
- Casting yard setup continues with last two beds for Variable Depth (VD).
- At the casting yard a total of 26 span by span segments were cast this month,115 completed to date.
- Continued Gantry assembly for erecting precast segments.

Next Period

- Expected design package submittals for review: 100% Station.
- Continue casting precast span by span segments at Casting Yard.
- The first VD segment, bed 7, is set to pour early January.
- Continue rebar cage assembly for drilled shafts, columns, straddle bents, and hammerheads.
- Continue drill shaft, column placements and hammerheads operations.
- Continue column work, falsework and ductbanks.
- Continue assembly and erection of launch gantry.

Closely Monitored Issues

- Two of seven segment casting lines are still not on-line due to earlier formwork delivery delays. Potential schedule impacts are being mitigated by working Saturdays and re-sequence the casting and erection sequence.
- Rebar quality at the casting yard and onsite continues to be an issue with many bars needing to be modified in the field to clear embeds. DB Contractor has increased rebar QC/QA oversight and also directed their subcontractor to step up their quality control efforts.
- DB Contractor's modifications to column and cap concrete mix designs have created pockets of "foaming" concrete with excessive air content. A root cause analyses was performed and corrective actions were determined. DB Contractor will return to using the concrete mix design which provided the superior finish in the past. These issues are not on the critical path and have no impact on the overall schedule.

Cost Summary

Present Financial Status	Amount
S440 Contractor—PCL Civil Contractors, Inc.	
Original Contract Value	$169,000,000
Change Order Value	$1,750,632
Current Contract Value	$170,750,632
Total Actual Cost (Amount Billed)	$54,295,160
Financial Percent Complete:	31.7%
Physical Percent Complete:	32%
Authorized Contingency	$13,520,000
Contingency Drawdown	$1,750,632
Contingency Index*	2.5

Formwork re-assembly at the S440 site

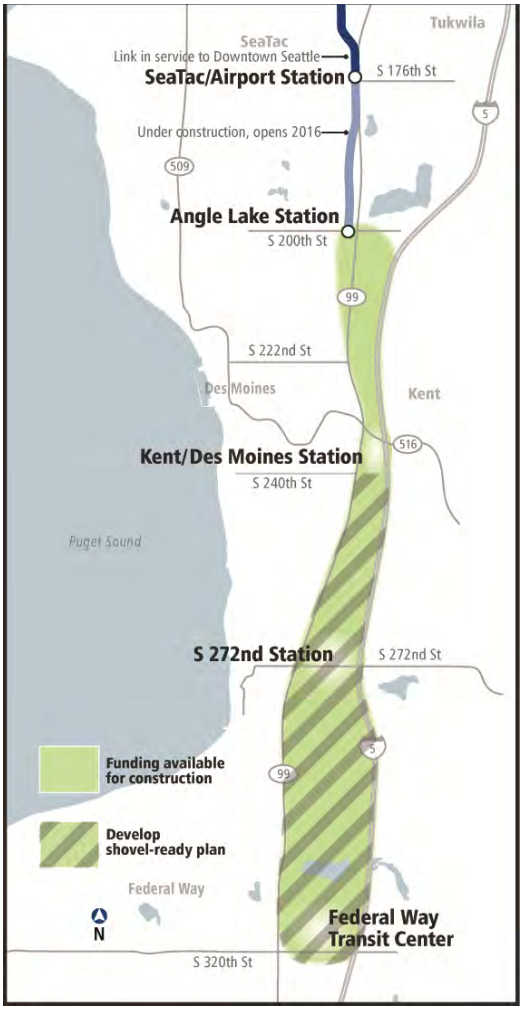
Scope

The Federal Way Link Extension includes Alternatives Analysis (Phase 1), Environmental and Conceptual Engineering (Phase 2) for an extension of Link Light Rail from S. 200th St. to the Federal Way Transit Center. Phase 1 was completed in September 2013.

Preliminary Engineering will be performed only for the segment from S. 200th St. to Kent/Des Moines (in the vicinity of Highline Community College).

Key Project Activities/Issues

- DEIS alternatives selected by the Board in September 2013.
- Executed Phase 2 contract amendment with HDR for Conceptual Engineering and Draft EIS work in October 2013.
- Advancing Conceptual Design in preparation for the Draft EIS.



Map of Federal Way Link Extension.

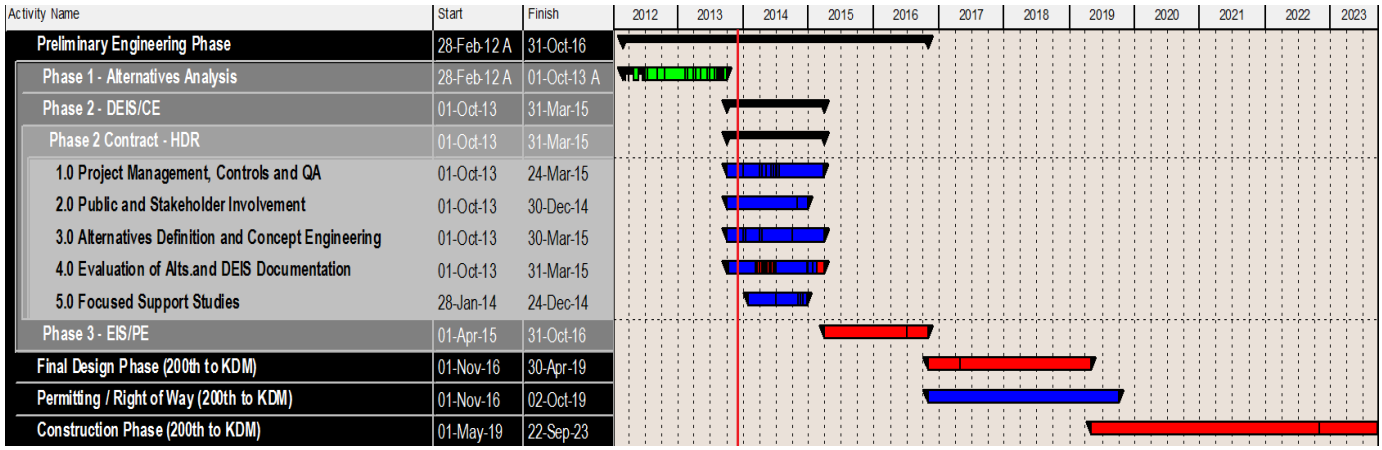
Project Cost Summary

The Federal Way Link Extension is currently funded through the completion of preliminary engineering (PE) and environmental documentation, with the exception of the segment from Kent/Des Moines to Federal Way, which is only funded through environmental documentation. Board approval for additional funding for final design and construction of the segment from S. 200th St. to Kent/Des Moines will be sought upon completion of funded work. The proposed 2014 budget includes an increase to the project lifetime budget to fund Right of Way activities needed to advance the design work. Table (below) figures in millions.

Phase	Adopted Budget	Commitment to Date	Incurred to Date	Forecasts and Trends	Estimated Final Cost (EFC)	Budget Versus EFC
Administration	$9.4	$0.9	$1.2	$8.5	$9.4	$0.0
Preliminary Engineering	$30.9	$12.0	$4.6	$18.8	$30.9	$0.0
Third Parties	$1.6	$0.2	$0.0	$1.4	$1.6	$0.0
Right of Way	$0.0	$0.1	$0.1	$0.1	$0.2	($0.2)
Total	**$41.8**	**$13.2**	**$5.9**	**$28.8**	**$42.0**	**($0.2)**

Project Schedule

Alternatives Analysis was completed in September 2013. The DEIS and Conceptual Engineering will go through the 1st QTR 2015, the Final EIS and Preliminary Engineering will go through 4th QTR 2016, and it is anticipated that the Board will adopt the project and the FTA will issue the ROD in late 2016.


Activity Name
Start
Finish
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Preliminary Engineering Phase 28-Feb-12 A 31-Oct-16
Phase 1 - Alternatives Analysis 28-Feb-12 A 01-Oct-13 A
Phase 2 - DEIS/CE 01-Oct-13 31-Mar-15
Phase 2 Contract - HDR 01-Oct-13 31-Mar-15
1.0 Project Management, Controls and QA 01-Oct-13 24-Mar-15
2.0 Public and Stakeholder Involvement 01-Oct-13 30-Dec-14
3.0 Alternatives Definition and Concept Engineering 01-Oct-13 30-Mar-15
4.0 Evaluation of Alts.and DEIS Documentation 01-Oct-13 31-Mar-15
5.0 Focused Support Studies 28-Jan-14 24-Dec-14
Phase 3 - EIS/PE 01-Apr-15 31-Oct-16
Final Design Phase (200th to KDM) 01-Nov-16 30-Apr-19
Permitting / Right of Way (200th to KDM) 01-Nov-16 02-Oct-19
Construction Phase (200th to KDM) 01-May-19 22-Sep-23

Sound Transit Board Actions

Board motions and resolutions directly related to Federal Way Link Extension is summarized in the table below.

Motion Number	Description	Date
	None to report.	

Environmental

- Completed conceptual design of alternatives for evaluation in the Draft EIS and analysis is underway.

Community Outreach

- Presented to the community Network Council and Neighbor Council.
- Completed draft of the Phase 2 Public Involvement.

Phase 2 Conceptual Engineering Overview

In October 2013, Sound Transit executed an amendment to the professional services agreement with HDR Engineering, Inc. for Phase 2 professional services, including Conceptual Engineering and a Draft Environmental Impact Statement.

Key Phase 2 Activities

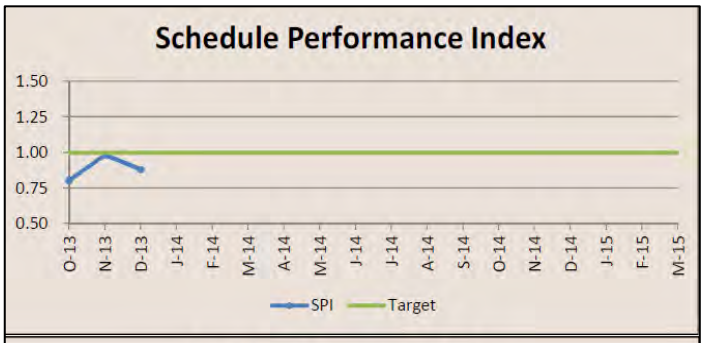
- Advanced the conceptual design for the alternatives to be evaluated in the DEIS, including station locations, parking and urban design concepts.
- Evaluated Value Engineering proposals for integration into the conceptual design.
- Advanced efforts to prepare for the EIS analysis, including drafting new sections and chapters of the document.
- Managed GIS data collection, mapping, and data distribution.
- Continued developing strategy for public outreach. Completed draft Public Involvement Plan.

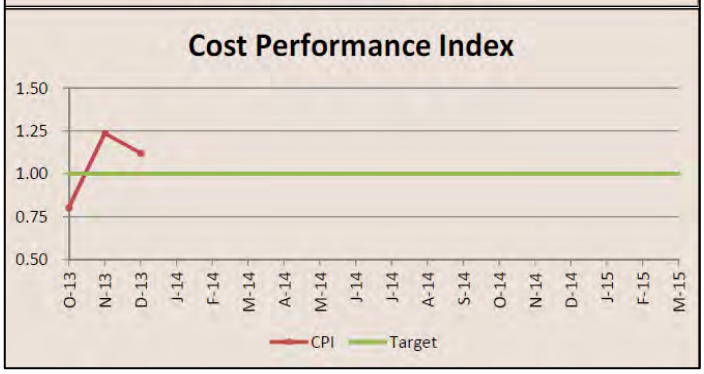
Phase 2 Schedule Performance

The cumulative Schedule Performance Index (SPI) is 0.88 through December 2013, indicating less work performed than planned. Non-critical early deliverables were delayed but the schedule indicates that the critical path work will be completed on time and no impact to the Phase 2 completion date.

Phase 2 Cost Performance

$4.5M of the total contract amount, approximately 38%, has been spent through December 2013. Phase 2 expenditures through Dec. totaled $1.4M, approximately 15% of the Phase 2 contract total. The Phase 2 percent complete reported at the end of Dec. is 17%, with an earned value of $1.5M. The cumulative Cost Performance Index (CPI) through December is 1.12, indicating lower costs than planned for work accomplished. Based on the current trend, the Phase 2 cost is expected to be under budget.





Phase 2 Performance	Previous Period	Current Period*	Cumulative To Date
Amount Invoiced	$809,920	$540,460	$1,350,380
% Spent	9%	6%	15%
Earned Value	$1,001,082	$513,018	$1,514,100
% Complete	9%	8%	17%
SPI	**0.98**	**0.73**	**0.88**
CPI	**1.24**	**0.95**	**1.12**

(*) EV reported in November includes October (first EV report for Phase 2).

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Scope

In cooperation with the City of Tacoma and Pierce Transit, Sound Transit is studying the potential of expanding the Tacoma Link light rail system in the context of the City and Pierce Transit service and capital plans. A technical advisory committee comprised of the City, Pierce Transit and Sound Transit staff convened to provide technical feedback and guidance throughout the Alternative Analysis (AA) process. Sound Transit, the City of Tacoma and Pierce Transit signed a cooperative agreement term sheet.

The Tacoma Link Expansion Project is in Preliminary Engineering Phase. (Updated quarterly.)

Tacoma Link

Key Project Activities

- Sound Transit held early scoping meetings in August 2012 including public & agency early scoping meetings/open houses. The 30-day early scoping comment period concluded in September 2012. Sound Transit submitted an Alternative Analysis (AA) initiation package to the FTA in October 2012. The AA evaluated corridor and alignment alternatives and also evaluated BRT as a mode alternative. In May 2013, the Sound Transit Board selected the E1 corridor as the preferred corridor on which to perform additional design work and environmental study.
- During 4th QTR 2013, Sound Transit continued to refine engineering assumptions and conduct technical analysis on potential route alignments, and on their potential environmental impacts to inform the decision on the appropriate type of environmental documentation. The alternative alignments were presented to the Tacoma City Council and public for input regarding which ones should move forward into environmental review.

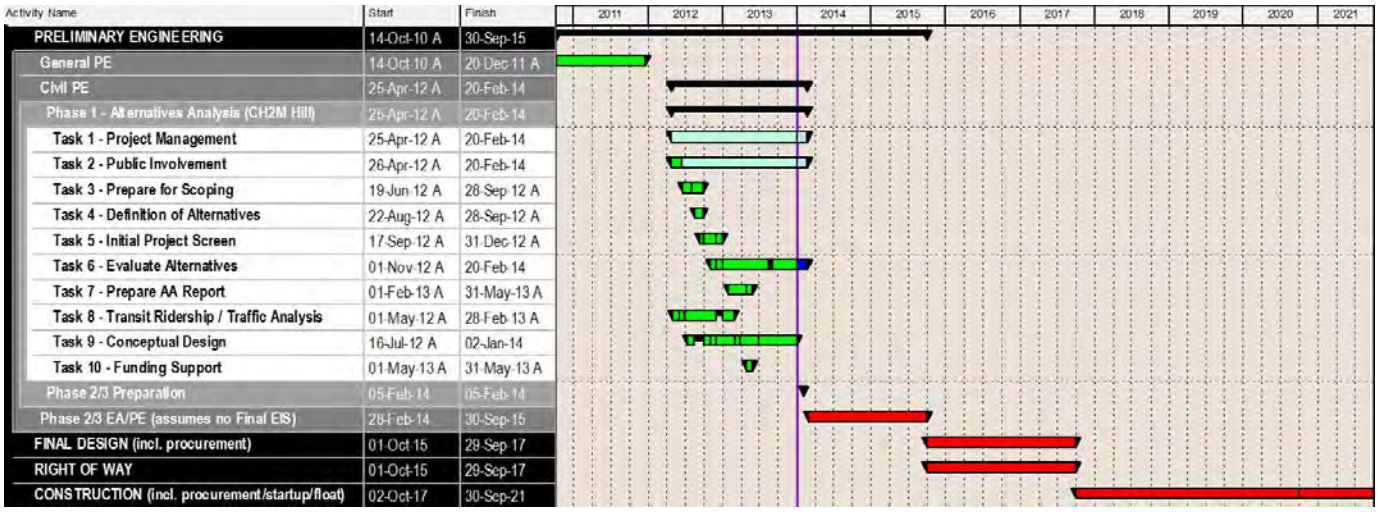
Project Cost Summary

The Tacoma Link Alternatives Analysis is currently funded through the completion of the alternatives analysis, PE and Environmental Documentation. Funding included in the ST2 financial plan represents a maximum capital contribution by Sound Transit to the overall cost of expanding Tacoma Link if other public or private entities provide additional funding. Board approval for funding environmental documentation, preliminary engineering, final design and construction will be sought upon completion of the alternatives analysis. Board approval for funding preliminary engineering, final design and construction will be sought upon completion of the environmental documentation, a project funding strategy and agreements with funding partners. The proposed 2014 budget includes an increase to the project lifetime budget to fund Right of Way activities needed to advance the design work. (Table in millions.)

Phase	Adopted Budget	Commitment to Date	Incurred to Date	Forecasts and Trends	Estimated Final Cost	Budget Versus EFC
Administration	$1.0	$0.5	$0.6	$0.5	$1.0	($0.0)
Preliminary Engineering	$4.7	$1.0	$0.9	$3.7	$4.7	$0.0
Right of Way	$0.0	$0.0	$0.0	$0.1	$0.1	($0.1)
Contingency	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Total	**$5.8**	**$1.6**	**$1.6**	**$4.3**	**$5.8**	**($0.1)**

Project Schedule

The Alternative Analysis will be completed by the 1st QTR 2014. The project schedule is presented below.



Activity Name	Start	Finish
PRELIMINARY ENGINEERING	14-Oct-10 A	30-Sep-15
General PE	14-Oct-10 A	20-Dec-11 A
Civil PE	25-Apr-12 A	20-Feb-14
Phase 1 - Alternatives Analysis (CH2M Hill)	25-Apr-12 A	20-Feb-14
Task 1 - Project Management	25-Apr-12 A	20-Feb-14
Task 2 - Public Involvement	26-Apr-12 A	20-Feb-14
Task 3 - Prepare for Scoping	19-Jun-12 A	28-Sep-12 A
Task 4 - Definition of Alternatives	22-Aug-12 A	28-Sep-12 A
Task 5 - Initial Project Screen	17-Sep-12 A	31-Dec-12 A
Task 6 - Evaluate Alternatives	01-Nov-12 A	20-Feb-14
Task 7 - Prepare AA Report	01-Feb-13 A	31-May-13 A
Task 8 - Transit Ridership / Traffic Analysis	01-May-12 A	28-Feb-13 A
Task 9 - Conceptual Design	16-Jul-12 A	02-Jan-14
Task 10 - Funding Support	01-May-13 A	31-May-13 A
Phase 2/3 Preparation	05-Feb-14	05-Feb-14
Phase 2/3 EA/PE (assumes no Final EIS)	28-Feb-14	30-Sep-15
FINAL DESIGN (incl. procurement)	01-Oct-15	29-Sep-17
RIGHT OF WAY	01-Oct-15	29-Sep-17
CONSTRUCTION (incl. procurement/startup/float)	02-Oct-17	30-Sep-21

Environmental

- Screening results from evaluation of several potential alignments for Tacoma Link expansion from North Downtown to the Hilltop district are being analyzed with the City of Tacoma, stakeholders, and the public. After this process, Sound Transit would identify which alignment(s) to advance for environmental documentation and further design.

Community Outreach

- Continued coordination and preparation for open house in January 2014.
- Preparation for stakeholder roundtable meetings.

Scope

Sound Transit is reviewing and evaluating current and future light rail storage and maintenance requirements to support the development, design, and construction of a future light rail operations and maintenance facility for proposed system expansion.

Key Project Activities

- Huitt-Zollars, Inc. continues work on Phase 1 contract for Conceptual Engineering and Environmental review.
- Identified long range facility requirements, potential corridors, and sites for the new Operations and Maintenance Satellite Facility (OMSF). Conducted environmental scoping and produced a scoping summary report.
- Met with City of Bellevue for n status update meeting and discussed first round of Third party Agency comments on DEIS and Urban Life Institute site visit scheduled for 1st QTR 2014.
- Circulate the DEIS for FTA review in 1st QTR 2014.

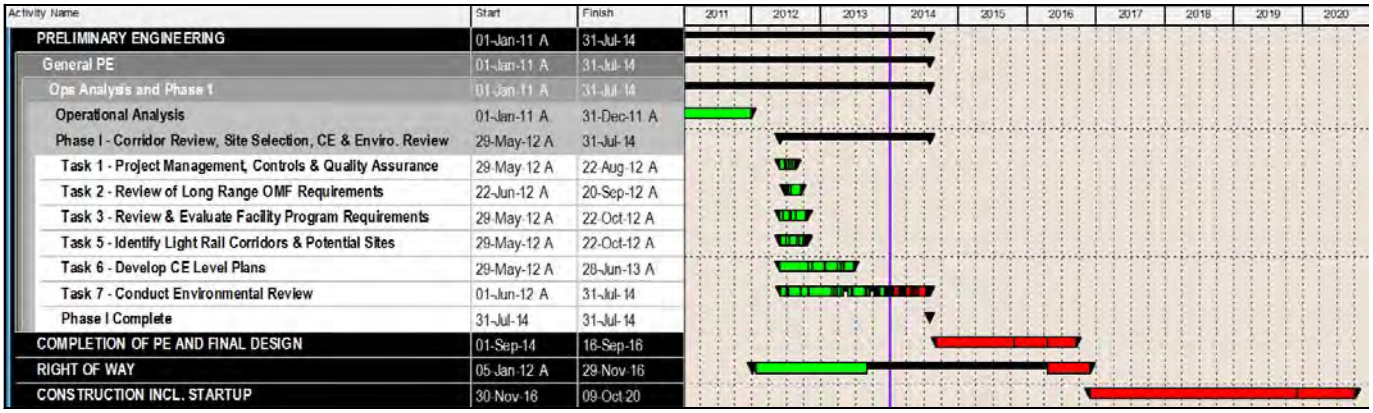
Program Cost

The Link Operations and Maintenance Satellite Facility (OMSF) project is currently funded through the completion of preliminary engineering (PE) and environmental documentation. Board approval for additional funding for final design and construction will be sought upon completion of PE. Table (below) figures in millions.

Phase	Adopted Budget	Commit-ment to Date	Incurred to Date	Forecasts and Trends	Estimated Final Cost (EFC)	Budget Versus EFC
Administration	$3.2	$0.4	$0.5	$2.8	$3.2	$0.0
Preliminary Engineering	$5.7	$3.1	$2.7	$2.6	$5.7	$0.0
3rd Party Agreements	$0.4	$0.0	$0.0	$0.4	$0.4	$0.0
Right of Way	$23.2	$23.2	$23.1	$0.1	$23.2	$0.0
Total	**$32.6**	**$26.7**	**$26.3**	**$5.9**	**$32.6**	**$0.0**

Program Schedule

The project schedule is presented below. The extension of Phase 1 completion to August 2014 requires that the remaining preliminary engineering and final design work be complete by September 2016 in order to maintain the current construction and startup schedule. Sound Transit is preparing a conceptual schedule to show the remaining preliminary engineering duration and investigating alternative delivery methods, such as design-build, in order to retain the desired service date in 2020. Moving the service date into 2021 may conflict with the operational needs of the East Link extension.


Activity Name
Start
Finish
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
PRELIMINARY ENGINEERING 01-Jan-11 A 31-Jul-14
General PE 01-Jan-11 A 31-Jul-14
Ops Analysis and Phase 1 01-Jan-11 A 31-Jul-14
Operational Analysis 01-Jan-11 A 31-Dec-11 A
Phase I - Corridor Review, Site Selection, CE & Enviro. Review 29-May-12 A 31-Jul-14
Task 1 - Project Management, Controls & Quality Assurance 29-May-12 A 22-Aug-12 A
Task 2 - Review of Long Range OMF Requirements 22-Jun-12 A 20-Sep-12 A
Task 3 - Review & Evaluate Facility Program Requirements 29-May-12 A 22-Oct-12 A
Task 5 - Identify Light Rail Corridors & Potential Sites 29-May-12 A 22-Oct-12 A
Task 6 - Develop CE Level Plans 29-May-12 A 28-Jun-13 A
Task 7 - Conduct Environmental Review 01-Jun-12 A 31-Jul-14
Phase I Complete 31-Jul-14 31-Jul-14
COMPLETION OF PE AND FINAL DESIGN 01-Sep-14 16-Sep-16
RIGHT OF WAY 05-Jan-12 A 29-Nov-16
CONSTRUCTION INCL. STARTUP 30-Nov-16 09-Oct-20

Phase 1 Conceptual Engineering and DEIS Overview

Sound Transit executed a professional services agreement with Huitt-Zollars, Inc. for civil engineering and architectural design services and issued NTP for Phase 1, Conceptual Engineering and DEIS, for the Link Operations and Maintenance Satellite Facility (OMSF) project in May 2012.

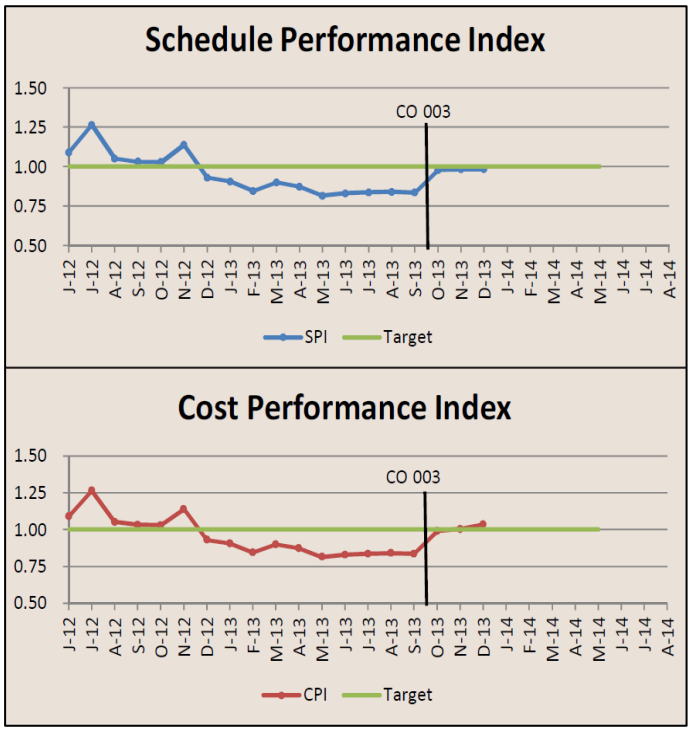
Phase 1 Key Activities

- Received comments on the cooperating agency reviews of the Draft EIS.
- Reviewed and responded to comments on the Draft EIS transportation section.
- Continued coordination with local jurisdictions and stakeholders.

Phase 1 Schedule Performance

Change Order 003, executed in October, extended the Phase 1 schedule to Aug. 2014.

The cumulative Schedule Performance Index (SPI) trends at 0.98 through December 2013, indicating that the cumulative work accomplished is close to the revised baseline planned work.



Phase 1 Cost Performance

Change Order 003 extended the schedule and increased contract budget.

$2.4M of the total contract amount, approximately 84%, was spent through December 2013. The Phase 1 percent complete is 83%, with an earned value of $2.4M.

The cumulative Cost Performance Index (CPI) is 1.02, indicating that expenditures are in line with the earned value. Based on these trends, the final cost is expected to be close to the revised contract budget of $2.8M.

Phase I Performance	Previous Period	Current Period	Cumulative To Date
Amount Invoiced	$2,336,031	$24,994	$2,361,025
% Spent	83%	1%	84%
Earned Value	$2,344,530	$100,943	$2,445,473
% Complete	83%	4%	87%
SPI	**0.98**	**0.98**	**0.98**
CPI	**1.01**	**4.04**	**1.02**

Staffing

Recruiting Activity

During reporting period of November 2013 the following positions were filled to support the capital program.

Position	Project Assignment	Planned Hire Date
Deputy Director	Civil and Structural Design	2013 Attrition*
Sr. Scheduling Engineering	Project Controls	February 2013

Recruiting continued during the reporting period for the following design, engineering and construction management positions:

Position	Project Assignment	Planned Hire Date
Construction Manager	Northgate Link Extension	January 2012
Construction Manager	East Link Extension	2012 – reclass*
Deputy Construction Manager	Non-corridor projects	2012 – reclass*
Construction Manager	Sounder and Regional Express	2012 Attrition
Deputy Executive Director	Business and Construction Services	2012 Attrition*
Sr. Risk Engineer	Project Controls	2012 Attrition
Deputy Project Director	University Link Extension	2013 Attrition*
Construction Manager	Systems	2013 Attrition*
Construction Manager	East Link Extension	2013 Attrition*
Systems Engineer	Link - Sounder	2013 Attrition*
Corridor Design Manager	Systems	2013 Attrition*
Corridor Project Control Supervisor - Northgate	Project Controls	2013 Attrition*
Community Outreach Specialist	University Link Extension	2013 Attrition*
Sr. Real Property Agent	Real Property	2013 Attrition
Project Coordinator	Art and Architecture	2013 Attrition
Sr. Structural Engineer	Civil and Structural Design	2013 Attrition
Sr. Systems Engineer	Enterprise	February 2013
Art Collection Coordinator	ST*art*	February 2013
Senior Systems Engineer	Traction Power	April 2013
Sr. Civil Engineer	Sound Transit 3	June 2013

**Attrition resulting from internal promotion to vacant position*

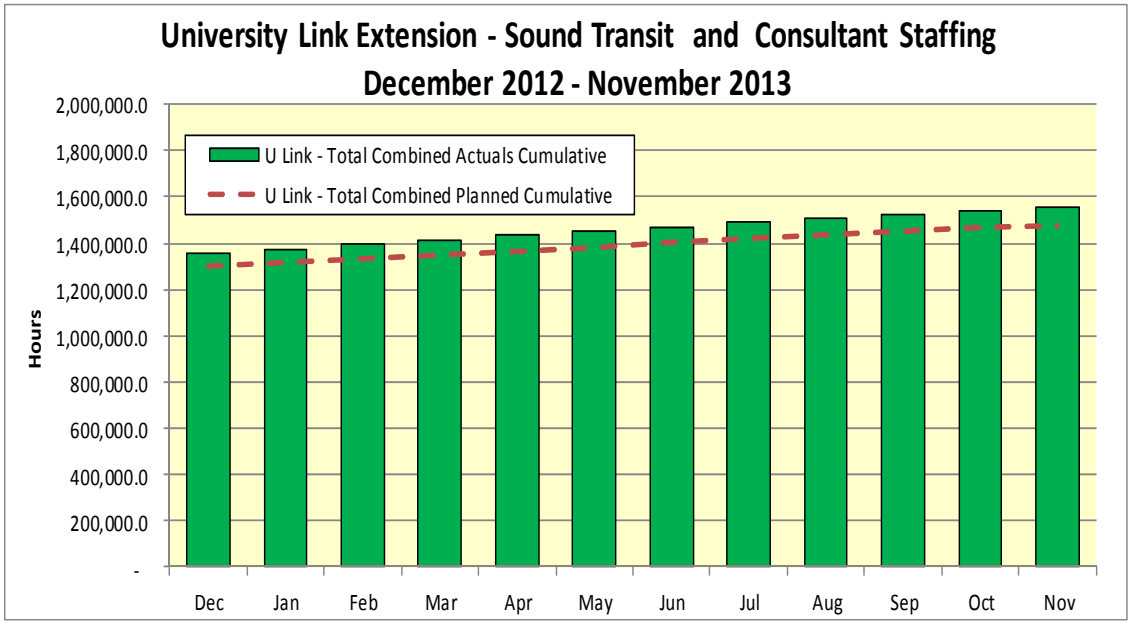
Project Staffing – Major Link Light Rail Programs

A total of 601 (113% of plan) consultant and internal staff full time equivalents (FTE) participated in the planning, design and construction of on-going Link light rail extensions in November 2013 a decrease of 1% (9 FTE) from October. Staffing increased significantly (12%, 14 FTE) for the Northgate Link Extension while decreasing by 22% (10 FTE) for the South 200th Link Extension. University Link Extension staffing was consistent with the October reporting period; East Link Extension staffing decreased 5% (14.4 FTE) and staffing for the Lynnwood Link Extension increased 4% (1.3 FTE). Staffing variance to plan by project follows.

University Link Extension Staffing

Total Internal and External Staffing – University Link Extension

There were 103.9 FTE assigned to the University Link Extension in November including 73.4 consultant FTE and 30.4 internal staff FTE. Staffing for the month trended 23% above plan (19 FTE) but was consistent with staffing for the October reporting period. Cumulatively, since August 2006, average monthly project staffing continues to trend approximately 5% (5 FTE/mo.) above plan.

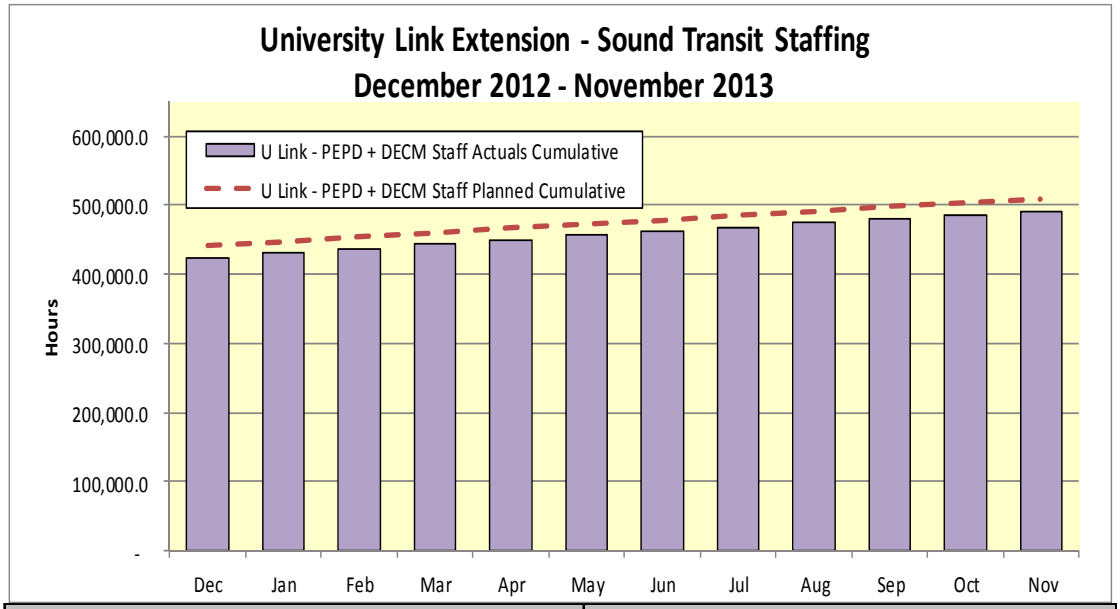


	Labor Hours to Date				Current Period Nov 2013			
	Total Planned	Total Actual	Total Variance	Percent Expended	Period Planned	Period Actual	Period Variance	Percent Expended
No. of Hours	1,480,179.6	1,556,110.2	75,930.7	105.1%	13,534.8	16,620.3	3,085.6	122.8%
Monthly Average	16,820.2	17,683.1	862.8					
Monthly FTE	105.1	110.5	5.4		84.6	103.9	19.3	

University Link Extension Staffing

Internal Resource Commitments to University Link Extension

There were 30.4 internal FTE assigned to the University Link Extension in November. Internal staffing decreased 17% (6.6 FTE) from October staffing and was below plan by 22% (8.6 FTE). Cumulatively, since August 2006, average monthly internal staffing continues to also trend approximately 4% (1.4 FTE/mo.) below the baseline.

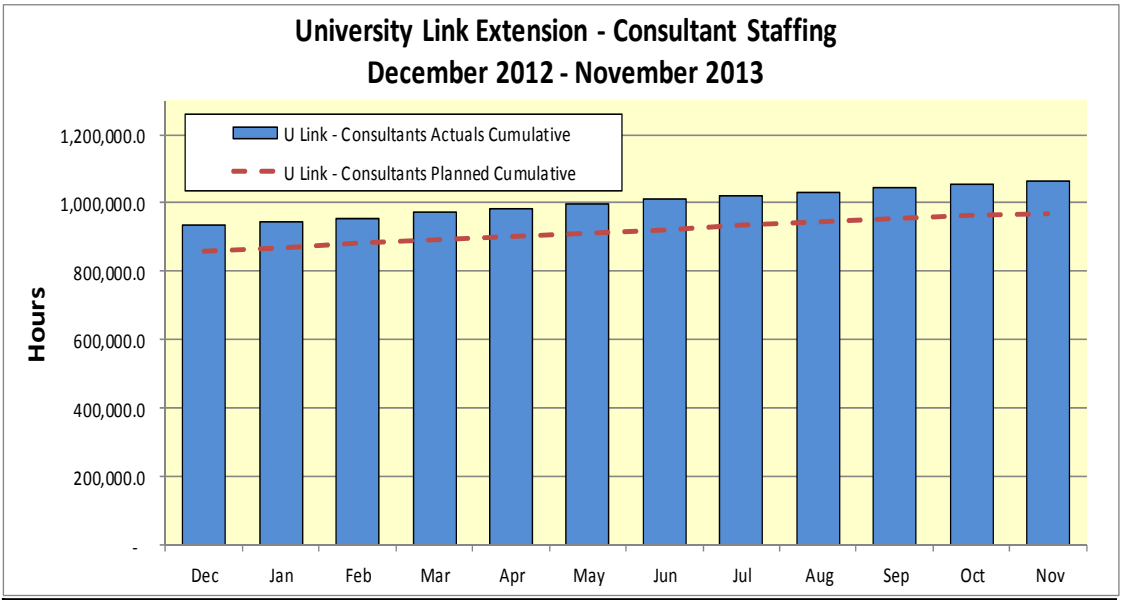


	Labor Hours to Date				Current Period Nov 2013			
	Total Planned	Total Actual	Total Variance	Percent Expended	Period Planned	Period Actual	Period Variance	Percent Expended
No. of Hours	510,159.8	490,092.0	-20,067.8	96.1%	6,240.0	4,870.0	-1,370.0	78.0%
Monthly Average	5,797.3	5,569.2	-228.0					
Monthly FTE	36.2	34.8	-1.4		39.0	30.4	-8.6	

University Link Extension Staffing

Consultant Resource Commitments to University Link Extension

During November, 73.4 consultant FTE were assigned to the University Link Extension exceeding plan by 61% (27.8 FTE) and increasing 10% (6.8 FTE) from October staffing. Cumulatively, since August 2006, average monthly consultant staffing continues to trend 10% (6.8 FTE/mo.) above plan.



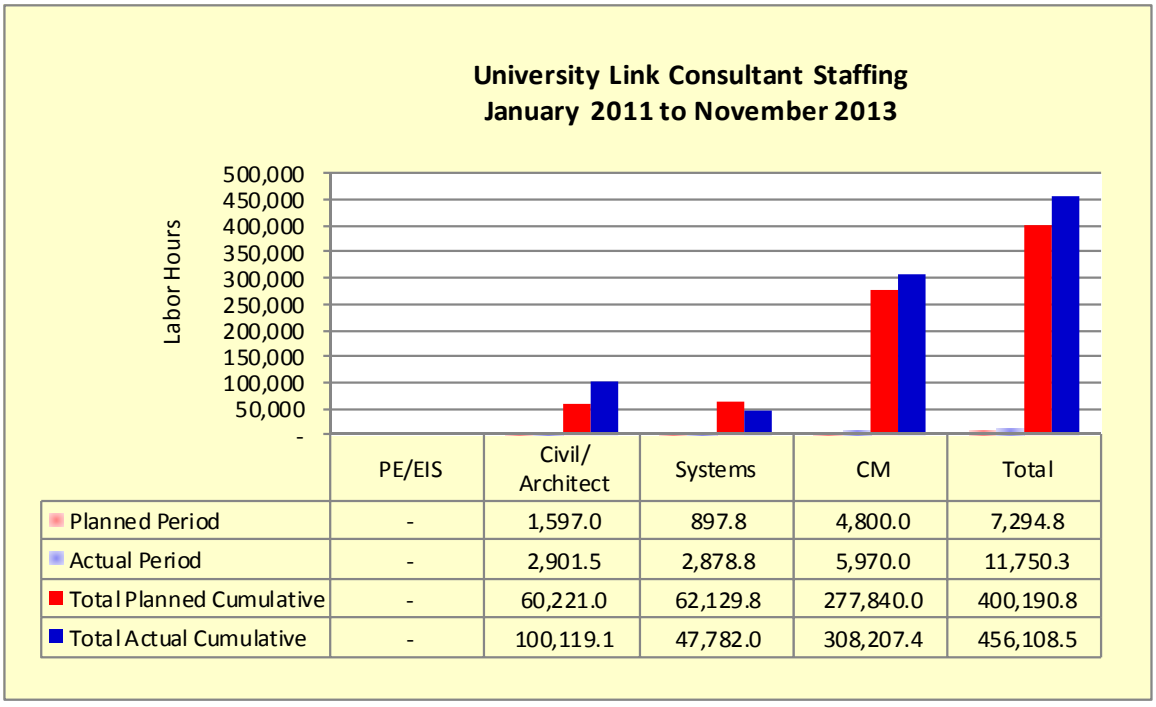
	Labor Hours to Date				Current Period Nov 2013			
	Total Planned	Total Actual	Total Variance	Percent Expended	Period Planned	Period Actual	Period Variance	Percent Expended
No. of Hours	970,019.8	1,066,018.3	95,998.5	109.9%	7,294.8	11,750.3	4,455.5	161.1%
Monthly Average	11,023.0	12,113.8	1,090.9					
Monthly FTE	68.9	75.7	6.8		45.6	73.4	27.8	

University Link Extension Staffing

Consultant Resource Commitments to University Link Extension, continued

Consultant utilization by discipline for the University Link Extension since January 2011 is illustrated below.

There were 18.1 civil engineering and architectural consultant staff and 18 Systems consultant staff assigned to the University Link Extension in November. Civil and architectural consultant staffing remains 82% (8.2 FTE) and 221% (12.4 FTE) above plan respectively largely due to decision to include the Maintenance-of-Way building in the University Link Extension scope and the level of effort involved in evaluating the potential for opening the extension in advance of the scheduled opening. Construction Management (CM) consultant staffing of 37.3 FTE was 24% above plan and increased 16% (5 FTE) from October. Cumulatively, since January 2011, civil/architecture consultant staffing continues to trend over 40% (39.2 FTE/mo.) above plan, systems 40% (4.6 FTE/mo.) below plan, and construction management 2% (0.6 FTE/mo.) above plan.

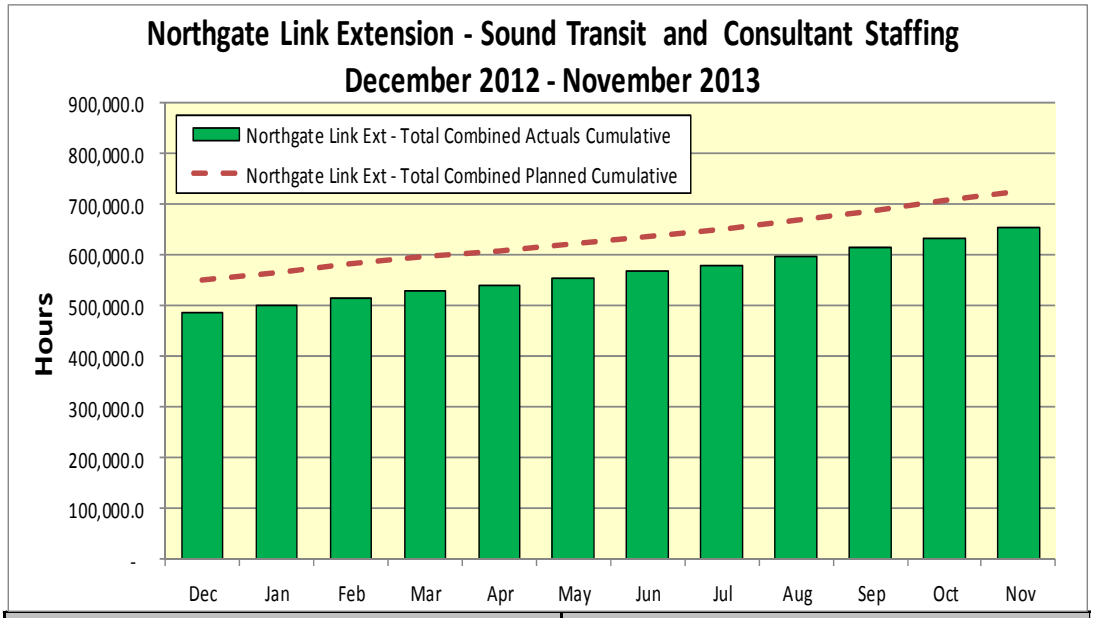


	PE/EIS	Civil/ Architect	Systems	CM	Total
Planned Period	-	1,597.0	897.8	4,800.0	7,294.8
Actual Period	-	2,901.5	2,878.8	5,970.0	11,750.3
Total Planned Cumulative	-	60,221.0	62,129.8	277,840.0	400,190.8
Total Actual Cumulative	-	100,119.1	47,782.0	308,207.4	456,108.5

Northgate Link Extension Staffing

Total Internal and External Staffing – Northgate Link Extension

During November, 31.2 internal FTE and 101.8 consultant FTE were assigned to the Northgate Link Extension. This is a 12% (13.8.FTE) increase from October staffing and 21% (23.5 FTE) above planned staffing of 109.3 FTE Cumulatively since January 2011 average monthly staffing continues to trend 10% (12.4 FTE/mo.) below plan.

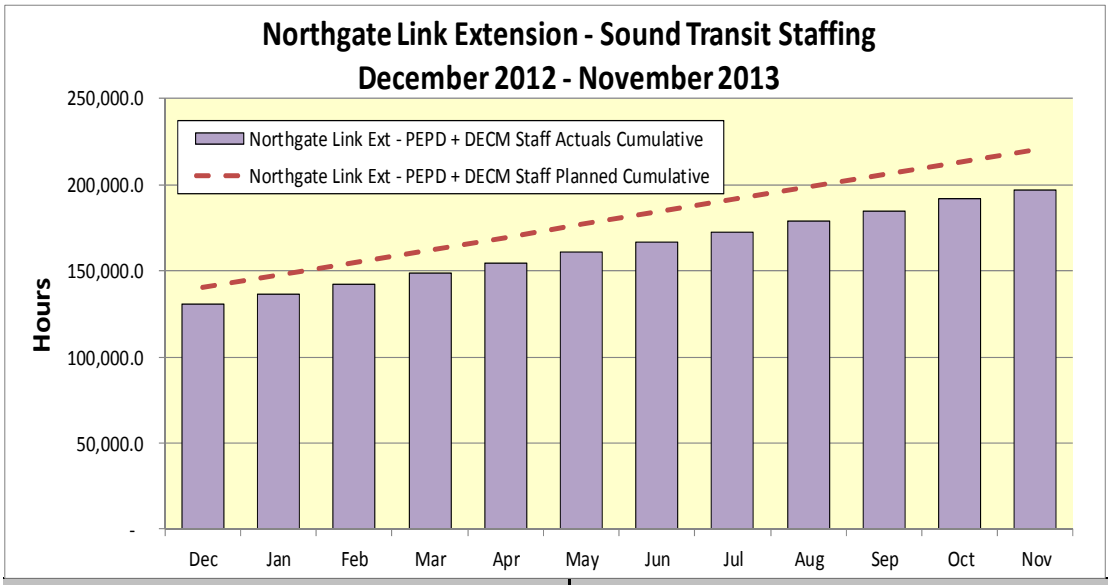


	Labor Hours Jan 2011 - Nov 2013				Current Period Nov 2013			
	Total Planned	Total Actual	Total Variance	Percent Expended	Period Planned	Period Actual	Period Variance	Percent Expended
No. of Hours	724,492.4	654,938.2	-69,554.2	90.4%	17,527.3	21,283.9	3,756.6	121.4%
Monthly Average	20,699.8	18,712.5	-1,987.3					
Monthly FTE	129.4	117.0	-12.4		109.5	133.0	23.5	

Northgate Link Extension Staffing

Internal Resource Commitments to Northgate Link Extension

Internal staffing in November (31.2 FTE) decreased 27% (11.6 FTE) from October staffing and remained below plan by 32% (14.4 FTE). Cumulatively, since January 2011, average monthly internal staffing continues to trend below plan by 10% (4 FTE/mo.).

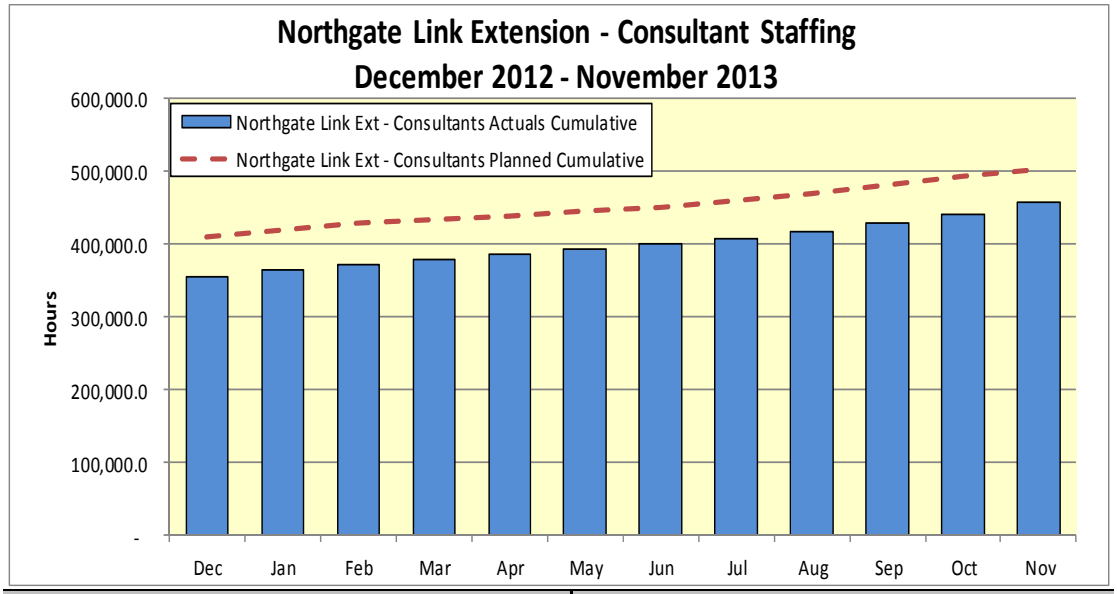


	Labor Hours Jan 2011 - Nov 2013				Current Period Nov 2013			
	Total Planned	Total Actual	Total Variance	Percent Expended	Period Planned	Period Actual	Period Variance	Percent Expended
No. of Hours	220,464.0	196,645.5	-23,818.5	89.2%	7,296.0	4,993.0	-2,303.0	68.4%
Monthly Average	6,299.0	5,618.4	-680.5					
Monthly FTE	39.4	35.1	-4.3		45.6	31.2	-14.4	

Northgate Link Extension Staffing

Consultant Resource Commitments to Northgate Link Extension

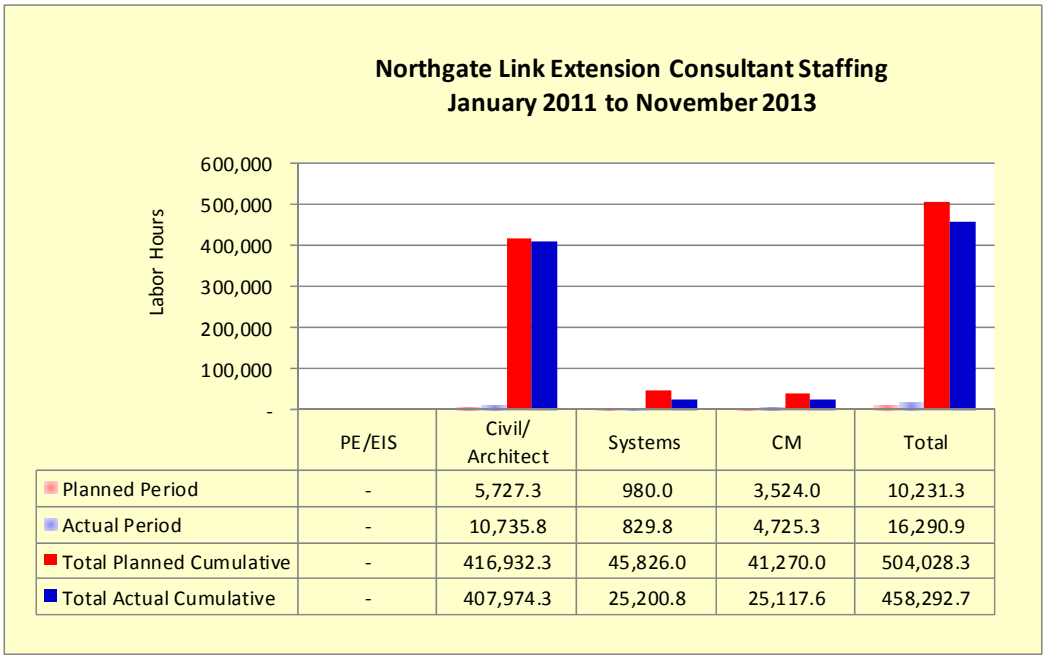
During November, 101.8 consultant FTE were assigned to the Northgate Link Extension, a 25% (25.4 FTE) increase from October consultant staffing, and 59% (37.9 FTE) above plan. This increase is largely due to the mobilization of additional construction management consultants as site preparation activities are being completed and the tunneling contractor begins mobilizing. Cumulatively, since January 2011, average consultant utilization continues to trend approximately 10% (8 FTE/mo.) below plan.



	Labor Hours Jan 2011 - Nov 2013				Current Period Nov 2013			
	Total Planned	Total Actual	Total Variance	Percent Expended	Period Planned	Period Actual	Period Variance	Percent Expended
No. of Hours	504,028.4	458,292.7	-45,735.7	90.9%	10,231.3	16,290.9	6,059.6	159.2%
Monthly Average	14,400.8	13,094.1	-1,306.7					
Monthly FTE	90.0	81.8	-8.2		63.9	101.8	37.9	

Northgate Link Extension Staffing

Consultant Resource Commitments to Northgate Link Extension



	PE/EIS	Civil/ Architect	Systems	CM	Total
Planned Period	-	5,727.3	980.0	3,524.0	10,231.3
Actual Period	-	10,735.8	829.8	4,725.3	16,290.9
Total Planned Cumulative	-	416,932.3	45,826.0	41,270.0	504,028.3
Total Actual Cumulative	-	407,974.3	25,200.8	25,117.6	458,292.7

Consultant utilization by discipline follows:

- Civil/architecture consultant utilization for November (67.1 FTE) increased 25% (13.5 FTE) from October staffing and was 87% (31.3 FTE) above plan. Civil engineering resources have begun review of tunneling submittals and requests for information from the tunneling and the Roosevelt GC/CM contractor. Cumulatively since January 2011, civil engineering/architecture consultant staffing continues to trend 2% (1.6 FTE/mo.) below plan.

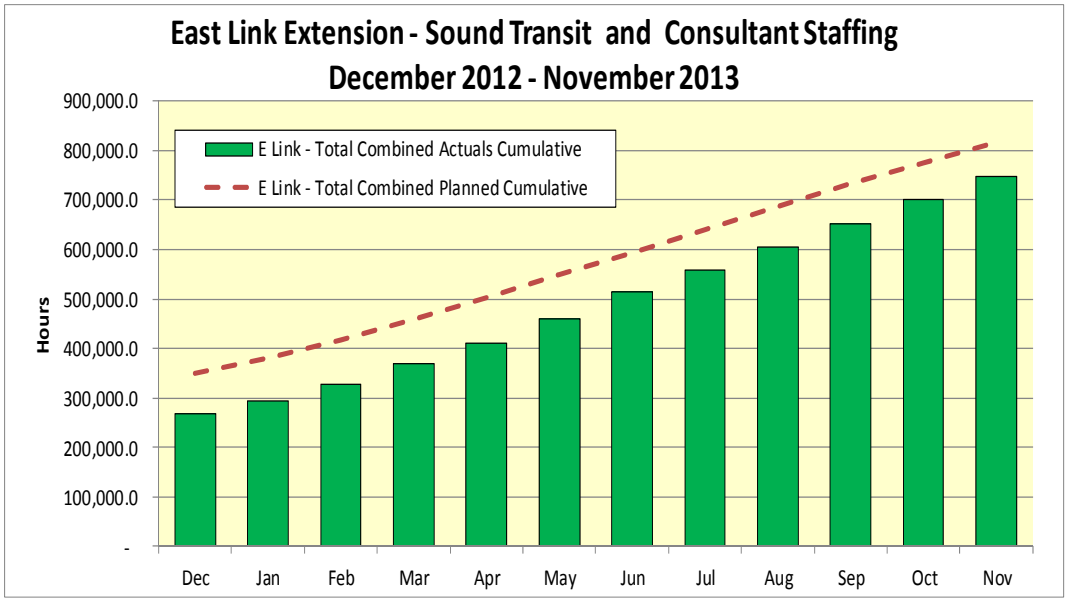
- Systems consultant utilization (5.2 FTE) increased 27% from October staffing and was 15% (0.9 FTE) below plan. Since January 2011, average monthly Systems consultant staffing continues to trend 45% (3.7 FTE/mo.) below plan.

- CM consultant staffing in November (29.5 FTE) was 58% above October staffing and 34% (7.5 FTE) above plan. Cumulatively, since January 2011, average monthly CM consultant staffing continues trend below plan by 39% (2.9 FTE/mo.).

East Link Extension Staffing

Total Internal and External Staffing – East ink Extension

Staffing for the East Link Extension in November (298 FTE) decreased 5% (14.4 FTE) from October staffing and remained above plan by 18% (46.2 FTE). Cumulatively since January 2011, average monthly staffing continues to trend nearly 10% (12 FTE/mo.) below plan.

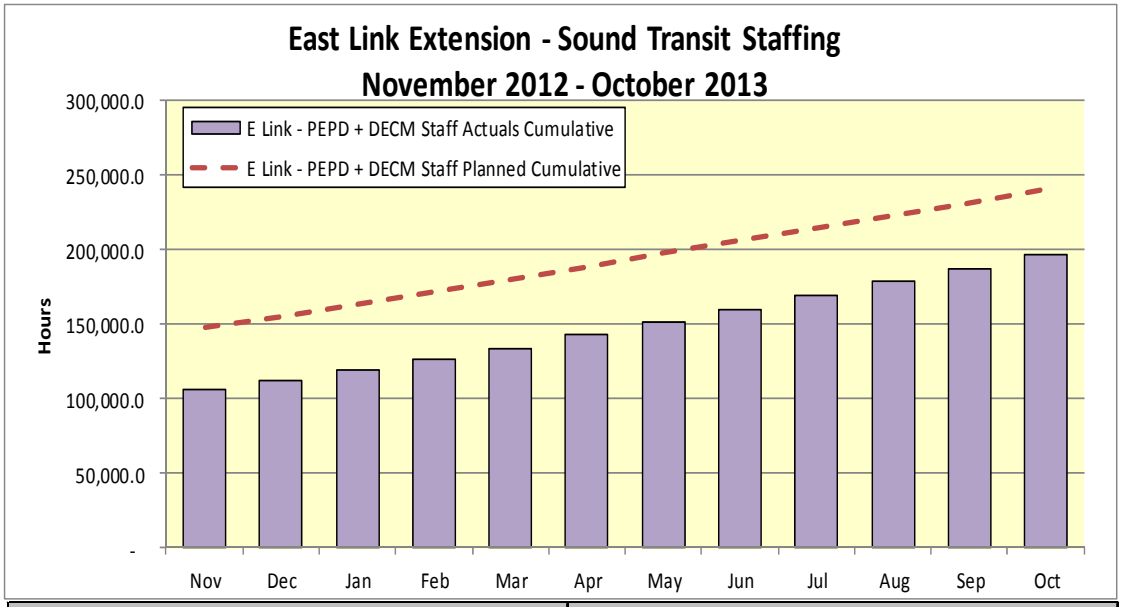


	Labor Hours Jan 2011 - Nov 2013				Current Period Nov 2013			
	Total Planned	Total Actual	Total Variance	Percent Expended	Period Planned	Period Actual	Period Variance	Percent Expended
No. of Hours	815,204.8	748,439.2	-66,765.7	91.8%	40,297.6	47,694.8	7,397.2	118.4%
Monthly Average	23,291.6	21,384.0	-1,907.6					
Monthly FTE	145.6	133.6	-11.9		251.9	298.1	46.2	

East Link Extension Staffing

Internal Resource Commitments to East Link Extension

During November internal staffing for the East Link Extension (48.6 FTE) was 9% (5 FTE) below plan. Cumulatively, since January 2011, average monthly internal staffing is trending nearly 20% (7.9 FTE/mo.) below plan.

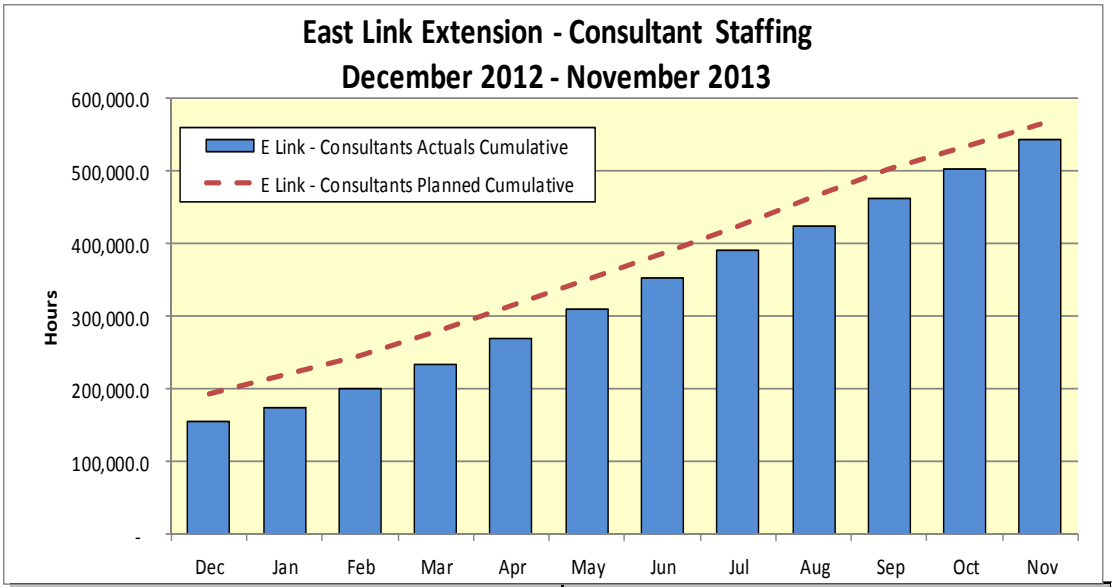


	Labor Hours Jan 2011 - Nov 2013				Current Period Nov 2013			
	Total Planned	Total Actual	Total Variance	Percent Expended	Period Planned	Period Actual	Period Variance	Percent Expended
No. of Hours	248,992.0	205,012.6	-43,979.4	82.3%	8,576.0	7,773.1	-802.9	90.6%
Monthly Average	7,114.1	5,857.5	-1,256.6					
Monthly FTE	44.5	36.6	-7.9		53.6	48.6	-5.0	

East Link Extension Staffing

Consultant Resource Commitments to East Link Extension

Consistent with October staffing, during November 249.5 consultant FTE were assigned to the East Link Extension. Consultant staffing in November exceeded plan by 26% (51.3 FTE). Cumulatively since January 2011, average monthly consultant staffing is trending 4% (4 FTE/mo.) below plan.

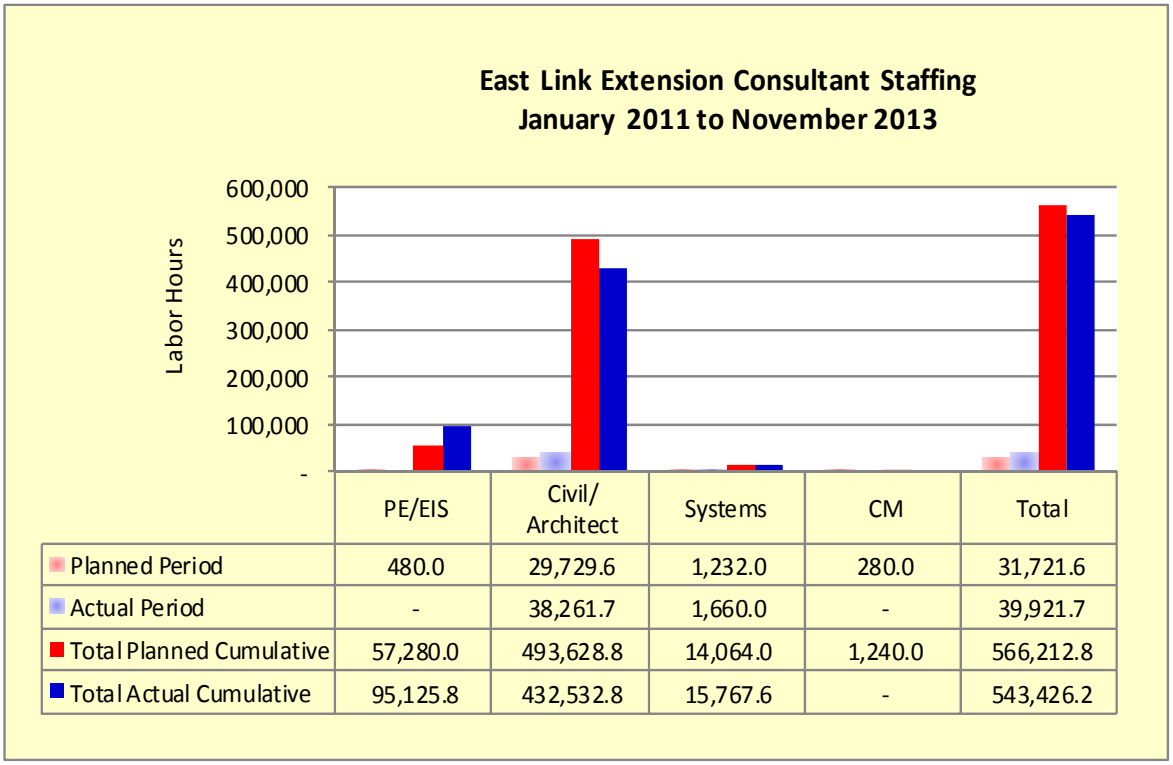


	Labor Hours Jan 2011 - Nov 2013				Current Period Nov 2013			
	Total Planned	Total Actual	Total Variance	Percent Expended	Period Planned	Period Actual	Period Variance	Percent Expended
No. of Hours	566,212.8	543,426.6	-22,786.3	96.0%	31,721.6	39,921.7	8,200.1	125.9%
Monthly Average	16,177.5	15,526.5	-651.0					
Monthly FTE	101.1	97.0	-4.1		198.3	249.5	51.3	

East Link Staffing

Consultant Resource Commitments to East Link, continued

Consultant utilization by discipline since January 2011 is reflected below. Similar to previous reporting periods, civil engineering consultant staff (239 FTE) represent the majority of consultant staffing in November. Systems consultant staffing (10.4 FTE) accounted for remaining consultant staffing on the East Link Extension.

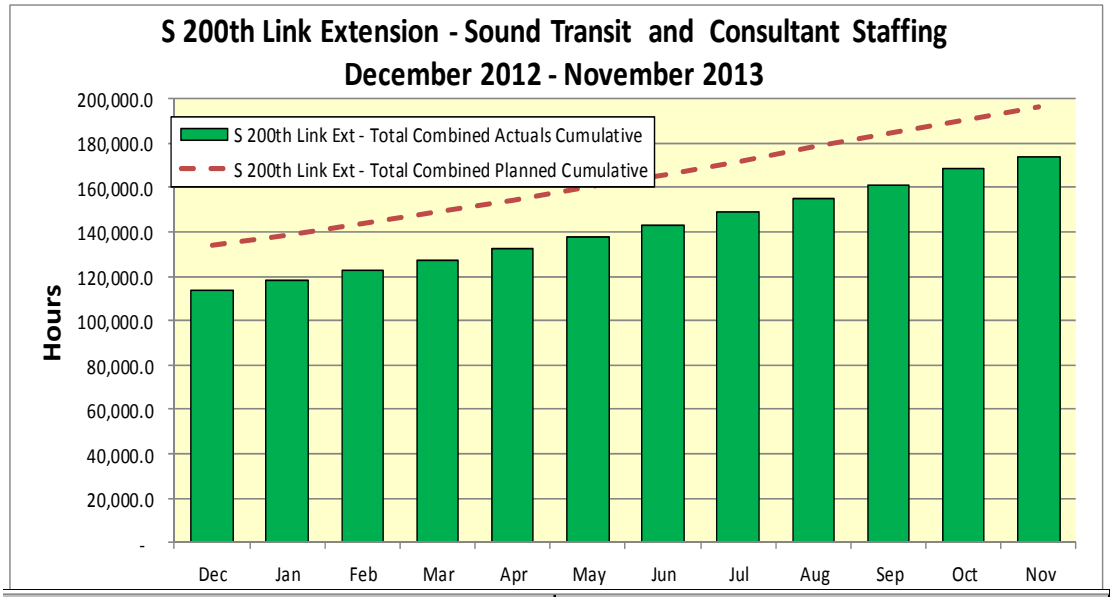


	PE/EIS	Civil/ Architect	Systems	CM	Total
Planned Period	480.0	29,729.6	1,232.0	280.0	31,721.6
Actual Period	-	38,261.7	1,660.0	-	39,921.7
Total Planned Cumulative	57,280.0	493,628.8	14,064.0	1,240.0	566,212.8
Total Actual Cumulative	95,125.8	432,532.8	15,767.6	-	543,426.2

S. 200th Link Extension Staffing

Total Internal and External Staffing – S. 200th Link Extension

Staffing for the South 200th Link Extension in November (35.3 FTE) decreased 22% (9.7 FTE) from October and was 96% of planned staffing. Since January 2011, average monthly internal and consultant staffing continues to trend nearly 12% (4 FTE/mo.) below plan.

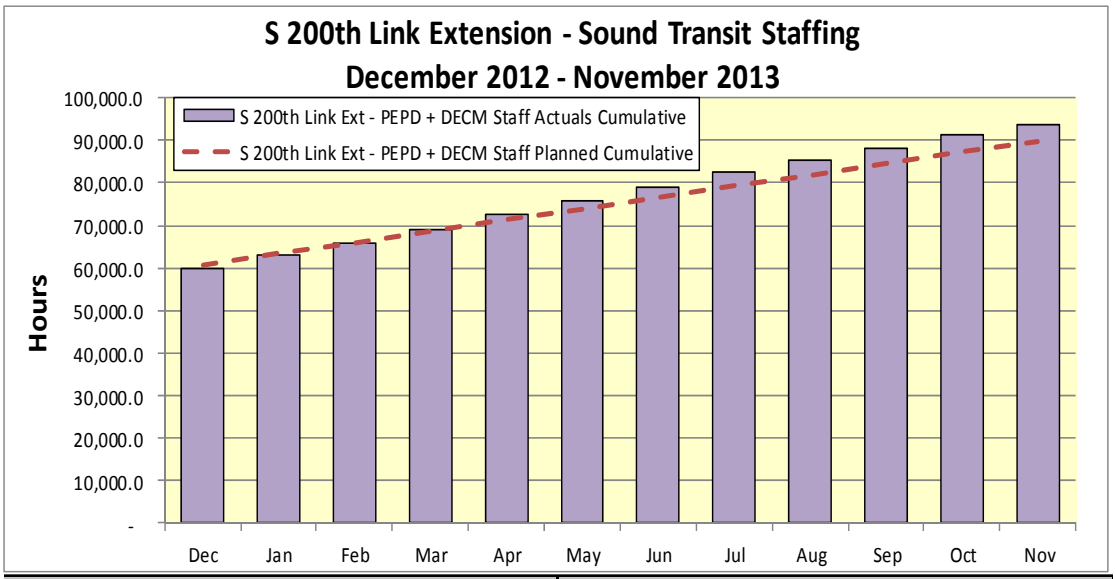


	Labor Hours Jan 2011 - Nov 2013				Current Period Nov 2013			
	Total Planned	Total Actual	Total Variance	Percent Expended	Period Planned	Period Actual	Period Variance	Percent Expended
No. of Hours	196,165.2	173,819.9	-22,345.3	88.6%	5,879.0	5,655.0	-224.0	96.2%
Monthly Average	5,604.7	4,966.3	-638.4					
Monthly FTE	35.0	31.0	-4.0		36.7	35.3	-1.4	

S. 200th Link Extension Staffing

Internal Resource Commitments South Link to S.200th Link Extension

Internal staffing in November (14.3 FTE) decreased 28% (5.5 FTE) from October staffing and was below plan by 14% (2.3 FTE). Cumulatively, since January 2011, average monthly internal staffing is trending with the baseline.

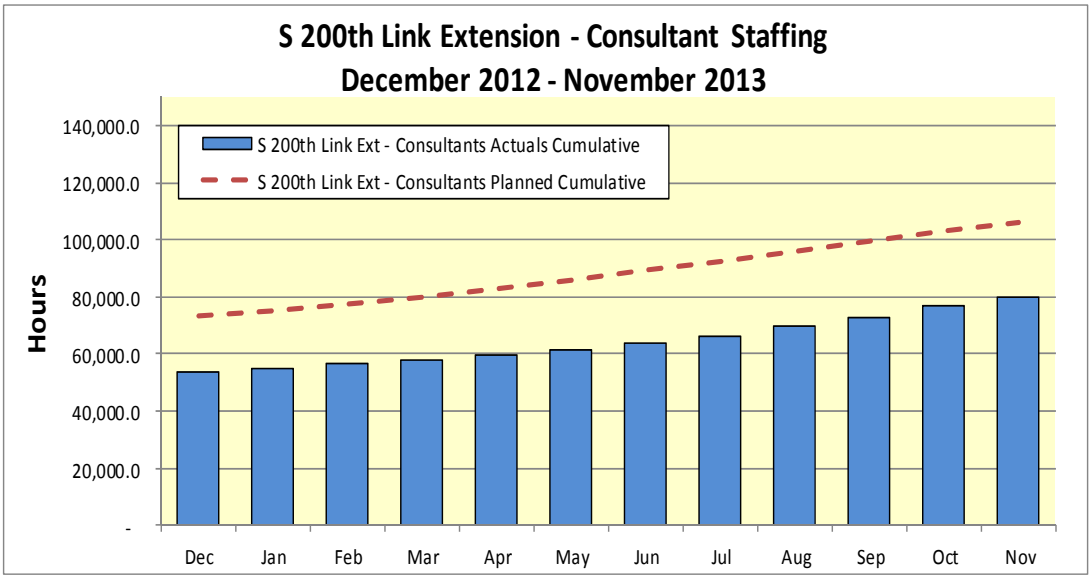


	Labor Hours Jan 2011 - Nov 2013				Current Period Nov 2013			
	Total Planned	Total Actual	Total Variance	Percent Expended	Period Planned	Period Actual	Period Variance	Percent Expended
No. of Hours	89,875.2	93,688.3	3,813.1	104.2%	2,656.0	2,284.5	-371.5	86.0%
Monthly Average	2,567.9	2,676.8	108.9					
Monthly FTE	16.0	16.7	0.7		16.6	14.3	-2.3	

S. 200th Link Extension Staffing

Consultant Resource Commitments to S. 200th Link Extension

Consultant staffing on the S. 200th Link Extension in November (21.1 FTE) decreased 20% (4.2 FTE) from October staffing and trended within 5% (1 FTE) of plan. Cumulatively, since January 2011, average consultant staffing continues to trend approximately 25% (5 FTE/mo.) below plan.

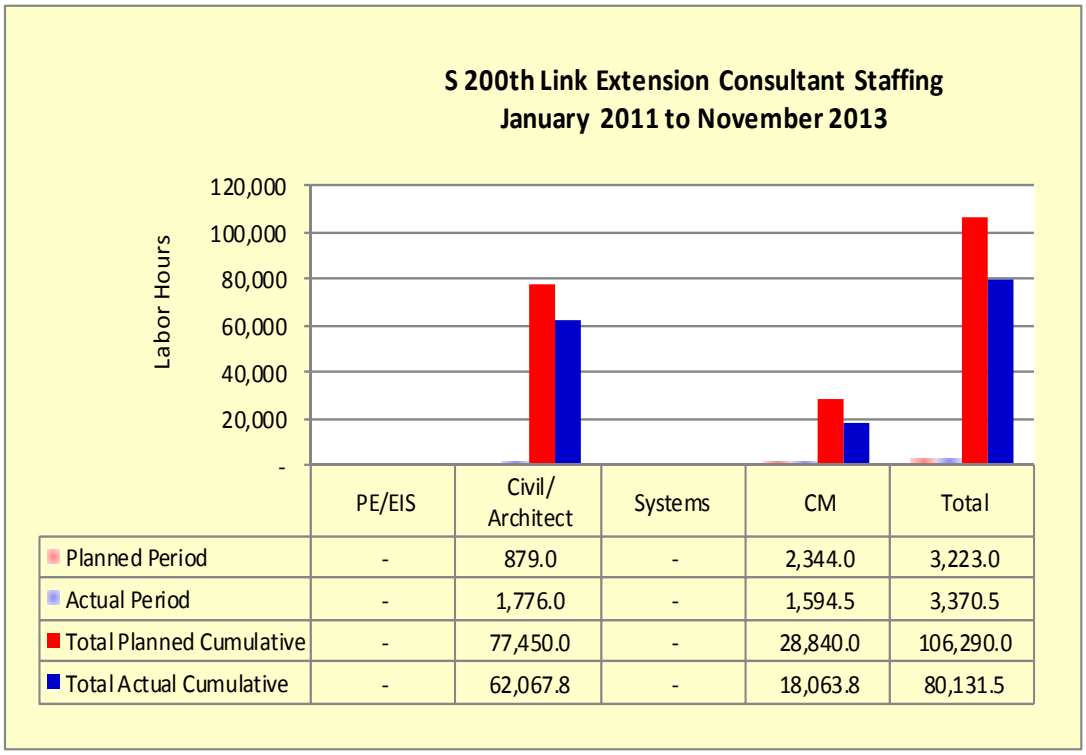


	Labor Hours Jan 2011 - Nov 2013				Current Period Nov 2013			
	Total Planned	Total Actual	Total Variance	Percent Expended	Period Planned	Period Actual	Period Variance	Percent Expended
No. of Hours	106,290.0	80,131.6	-26,158.4	75.4%	3,223.0	3,370.5	147.5	104.6%
Monthly Average	3,036.9	2,289.5	-747.4					
Monthly FTE	19.0	14.3	-4.7		20.1	21.1	0.9	

S. 200th Link Extension Staffing

Consultant Resource Commitments to S. 200th Link Extension

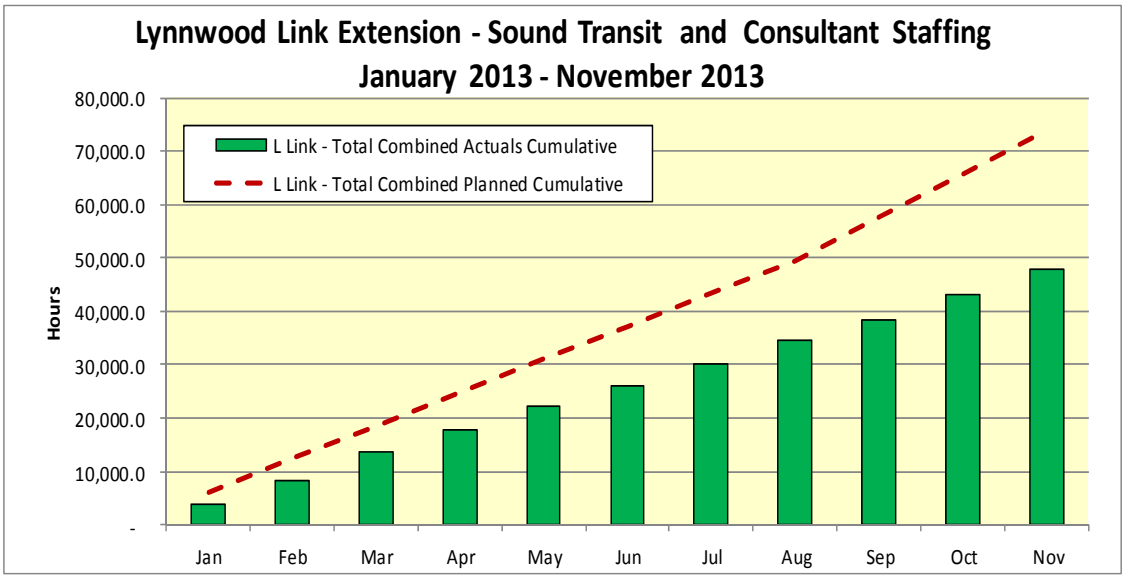
Design/build project management consultants (10 FTE) accounted for approximately 50% of consultant staffing in November. Additional consultant staff (11.1 FTE) provided the civil and architectural engineering elements of the design and procurement efforts for the parking structure and traffic mitigation measures and performed station and guideway submittals reviews. Similar to other reporting periods, Systems consultant utilization is not reported as it has been incorporated into the station and guideway design/build contract and will not be tracked or reported separately from design/build consultant staffing.



	PE/EIS	Civil/ Architect	Systems	CM	Total
Planned Period	-	879.0	-	2,344.0	3,223.0
Actual Period	-	1,776.0	-	1,594.5	3,370.5
Total Planned Cumulative	-	77,450.0	-	28,840.0	106,290.0
Total Actual Cumulative	-	62,067.8	-	18,063.8	80,131.5

Lynnwood Link Staffing

Consistent with October staffing during November, 30 FTE were assigned to the Lynnwood Link Extension. November staffing continues to remain below plan by 40% (21 FTE). Preliminary engineering consultants (20.3 FTE) made up over 70% of project staff. Cumulatively since January 2013, staffing for the Lynnwood Link Extension is trending 15 FTE/mo. (35% below plan).



	Labor Hours Jan 2013 - Nov 2013				Current Period Nov 2013			
	Total Planned	Total Actual	Total Variance	Percent Expended	Period Planned	Period Actual	Period Variance	Percent Expended
No. of Hours	73,872.0	47,810.8	-26,061.2	64.7%	8,112.0	4,803.0	-3,309.0	59.2%
Monthly Average	6,715.6	4,346.4	-2,369.2					
Monthly FTE	42.0	27.2	-14.8		50.7	30.0	-20.7	

ACRONYMS

AA	Alternative Analysis
APE	Area of Potential Impact
BCE	Baseline Cost Estimate
BCWS	Budgeted Cost of Work
BIM	Building Information Modeling
BNSF	Burlington Northern Santa Fe Railway
CCB	Change Control Board
CDF	Controlled Density Fill
CHS	Capitol Hill Station
CM	Construction Management
CMU	Concrete Masonry Unit
CO	Change Order
CPI	Cost Performance Index
CPM	Critical Path Method
DAHP	Department of Archaeology & History Preservation
DART	Days Away, Restricted or Modified
DB	Design -Build
DECM	Design, Engineering and Construction Management
DEIS	Draft Environmental Impact Statement
DPD	Seattle Department of Planning and Development
DSC	Differing Site Conditions
DSDC	Design Support During Construction
DSTT	Downtown Seattle Transit Tunnel
EFC	Estimated Final Cost
EMI	Electro Magnetic Interference
FD	Final Design
FHWA	Federal Highway Administration
FSEIS	Final Supplemental Environmental Impact Statement
FFGA	Full Funding Grant Agreement
FTA	Federal Transit Administration
FTE	Full Time Employee
GC/CM	General Contractor /Construction Management
HVAC	Heating, Ventilation and Air Conditioning
ICD	Integration Control Document
IRT	Independent Review Team
IWP	Industrial Waste Permit
JA	Jacobs Associates
JARPA	Joint Aquatic Resource Permit Application
KCM	King County Metro
LNTP	Limited Notice to Proceed

ACRONYMS, continued

LRT	Light Rail Transit
LRV	Light Rail Vehicle
LTK	LTK Engineering Services
MACC	Maximum Allowable Construction Cost
MDA	Major Discharge Authorization
MLK	Martin Luther King, Jr. Way
MOA	Memorandum of Agreement
MOS	Minimum Operable Segment
MOU	Memorandum of Understanding
MPPCV	Major Public Project Construction Variance
MRB	Material Review Board
MTP	Montlake Triangle Project
MUP	Master Use Permit
NB	Northbound
NCTP	North Corridor Transit Partners
NEPA	National Environmental Policy Act
NOAA	National Oceanic and Atmospheric Administration
NTP	Notice to Proceed
OCS	Overhead Catenary System
OMF	Operations and Maintenance Facility
OMSF	Operations and Maintenance Satellite Facility
OTC	Overlake Transit Center
PE	Preliminary Engineering
PEP	Project Execution Plan
PEPD	Planning, Environment and Project Development
PMOC	Project Management Oversight Consultant
PSST	Pine Street Stub Tunnel
QA	Quality Assurance
QC	Quality Control
QTR	Quarter
RE	Resident Engineer
RFC	Request for Change
RFD	Request for Deviation
RFI	Request for Information
RFP	Request for Proposal
RFQ	Request for Qualifications
RIR	Recordable Injury Rates

ACRONYMS, continued

RMP	Risk Management Plan
ROD	Record of Decision
ROW	Right of Way
SB	Southbound
SCADA	Supervisory Central and Data Acquisition
SCC	Standard Cost Categories
SCL	Seattle City Light
SDEIS	Supplemental Draft Environmental Impact Statement
SEPA	State Environmental Policy Act
SIP	Street Improvement Permitting
SPI	Schedule Performance Index
SR	State Route
ST	Sound Transit
START	Seattle Tunnel and Rail Team
SWI	Stacy & Witbeck, Inc.
TBM	Tunnel Boring Machine
TCE	Temporary Construction Easement
TE	Traction Electrification
TFK	Traylor Frontier Kemper Joint Venture
TOD	Transit Oriented Development
TVM	Ticket Vending Machine
UAC	Unallocated Contingency
U-Link	University Link project
USFWS	U.S. Fish and Wildlife Service
UW	University Of Washington
UWS	University of Washington Station
VE	Value Engineering
VECP	Value Engineering Cost Proposal
WBS	Work Breakdown Structure
WSDOT	Washington Department of Transportation